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SOCIODRAMATIC PLAY: EFFECT ON SOCIAL INTEGRATION OF CHILDREN WITH HANDICAPS IN MAINSTREAMED EARLY CHILDHOOD CLASSES

BY

KAREN PEDERSEN - BAYUS ©

A THESIS
SUBMITTED TO THE FACULTY OF GRADUATE STUDIES AND RESEARCH
IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE
OF MASTER OF EDUCATION
IN
SPECIAL EDUCATION
DEPARTMENT OF EDUCATIONAL PSYCHOLOGY
EDMONTON, ALBERTA.
(FALL) (1989)

THE UNIVERSITY OF ALBERTA

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DEGREE: MASTER OF EDUCATION

YEAR THIS DEGREE GRANTED : 1989

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Sociodramatic Play: Effect on Social Integration
of Children with Handicaps in Mainstreamed
Early Childhood Classes

submitted by Karen Pedersen - Bayus
in partial fulfillment of the requirements for the
degree of
Master of Education
in Special Education

Linda McDonald..........
Supervisor

Bernard Schwartz..........

....

Date: June 28/89..

Abstract

This study, carried out at Vital Grandin School in St. Albert, Alberta, Canada, was designed to investigate the application of a portion of the Integrated Preschool Curriculum (IPC) to increase the social integration of three children with moderate disabilities in mainstreamed early childhood classes. Social integration was defined as the frequency that children with handicaps interact with their non-handicapped peers. In particular, the use of sociodramatic (shared symbolic or representational play) integrative activities from the IPC with Direct Instruction of Social Skills (DISS), was investigated. DISS included teaching initiation strategies to children with handicaps by teacher direction and peer-mediated responding strategies.

A multiple-baseline design across three subjects was used, with a fourth child with disabilities serving as an attention-control subject.

During the baseline phase, the target children in this study interacted minimally with their non-handicapped peers and were ranked at the bottom of their classes in terms of social interactions with children who were non-handicapped.

Sociodramatic play with Direct Instruction of Social Skills effectively increased the target children's rates of social interaction with non-handicapped peers while in the sociodramatic playgroup condition. Generalization, during the intervention phase, to the classroom was limited for two of the children and did not occur for a third child. The attention-control child's rate of social interaction with non-handicapped peers remained at the baseline level during the intervention phase.

At the conclusion of the investigation the three children in the sociodramatic play condition had moved up in rank in their classrooms in terms of social interaction with peers who were non-handicapped. The attention-control child remained at the bottom. Language samples were inconclusive.

Implications were discussed for future studies on social integration in terms of person, peer-group and environmental variables, as well as on the role of social integration as a possible mediating variable for future developmental outcomes.

Acknowledgements

I would like to thank all the people who assisted me in carrying out this study:

- Dr. Linda McDonald, my advisor, who gave me guidance and spent long hours reading and re-reading this thesis.
- Dr. Gerry Kysela and Dr. Bernie Schwartz, my committee members.
- Bonnie Dechene who patiently typed my thesis over and over and Bob Dechene who spent a lot of time figuring out what the word processor could and could not do.
- Diane Mertz, who volunteered many days to assist with the inter-rater reliability of the study.
- the teachers at Vital Grandin School for being so receptive to my being in their classrooms.

I would also like to thank my wonderful friends and neighbours who assisted me with encouragement, babysitting, taking my turn in playschool carpools and offering to help in any way they could.

Most of all I would like to thank my husband, Steven, who did everything he could to make the load easier and my two children Sean and Erin who helped in their own way in being patient with a mother who was very busy.

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CHAPTER ONE

Introduction

The area of social skill development in young children is complex and controversial (Guralnick, 1986). With young children who are disabled, the situation is compounded (Bailey & Wolery, 1984; Strain & Kohler, 1988). Interest in the social skill development of children who have special needs is a very recent phenomenon. Traditionally, early intervention programs for children with handicaps were segregated and focussed on cognitive development, language acquisition and motor skills (Odom & McEvoy, 1988). With the occurrence of mainstreaming, where children with handicaps are educated in classes serving primarily typically developing children, early childhood educators have become more concerned with the social and emotional development of these youngsters. A major goal of mainstreaming children who are disabled into regular early childhood education classes appears to be social integration (referring to social interaction between handicapped and non-handicapped children) (Kaufman, Gottlieb, Agard & Kukic 1975; Odom, Jenkins, Speltz & DeKlyen, 1982; Odom & Speltz, 1983). In fact, social integration may be a mediating variable for increasing the development of intellectual, language and other skills (Guralnick, 1982; Jenkins, Odom & Speltz, in press). The overwhelming consensus regarding spontaneous social integration, however, is that it will not occur without active intervention (Cooke, Apolloni & Cooke, 1977; Guralnick, 1980; Odom et al., 1982; Odom & McEvoy, 1988; Porter, Ramsey, Tremblay, Iaccolco & Crawley, 1978).

In an effort to promote increased social skills in children and social integration, investigators have researched many different techniques. Social skill interventions include behavioural techniques derived from social learning theory (Gresham, 1981) where the manipulation of antecedents, the manipulation of consequences, modelling and cognitive behavioural strategies are employed; social problem solving strategies and teaching children who are rejected by their peers the interpersonal actions of accepted children (Asher & Hymel, 1981; Oden & Asher, 1977). Subsumed under the manipulation of antecedents are peer-mediated interventions (Strain, 1977; Strain & Timm,. 1974; Strain, Shores & Timm, 1977), sociodramatic activities, where children with handicaps assume the role of characters in familiar children's stories

(Shores, Hester & Strain, 1976; Strain, 1975; Strain & Wiegerink, 1976) or share in pretend or imaginary play (Odom et al., 1988),and the use of co-operative tasks (Ballard, Corman, Gottlieb & Kaufman, 1978).

There are, however, difficulties associated with many methods. Timm, Strain and Eller (1979) pointed out that while teacher prompting and reinforcement were powerful tools for promoting social integration, there was limited evidence that the teacher's support could be faded out effectively. As well, interventions often required more teacher time and monitoring of child behaviour than is possible in mainstreamed classes. With many techniques, difficulties with generalization to settings beyond the treatment setting can be found (Stokes & Baer, 1977). It is often difficult to make generalizations from the research to mainstreamed Kindergarten classes, since many have been carried out either in segregated preschool classes (Strain, 1975; Strain, Shores & Kerr, 1976) or integrated special education classes where the majority of the children are handicapped (Jenkins et al., in press; Odom et al., 1982). Recently, researchers have looked at environmental or ecological variables to set the occasion for increased social play as an intervention technique (Carta, Sainato & Greenwood, 1988). Several features of the environment have been manipulated and studied such as the effect of materials (Huston-Stein, Friedrich-Cofer & Susman, 1977; Quilitch & Risley 1973), teacher-pupil ratio (O'Connor, 1975) and the ratio of children with handicaps to non-handicapped children (Tawney, 1981). Although they are scarce, such studies appear promising since they suggest that by simply altering aspects of the environment, children's social interaction may be increased.

The training of peers to increase the social integration of young children with handicaps is another fairly new technique (Guralnick, 1981; McHale & Olley, 1982; Odom, Strain, Karger & Smith, 1986; Strain & Kohler, 1988). It is hoped that these more recent methods of intervention will, due to their natural quality, facilitate generalization and implementation. More research is required, especially in mainstreamed Kindergarten classes.

Children's play is considered a developmentally important behaviour, having a role in promoting cognitive growth in children (Piaget, 1962), creative and flexible thinking (Singer, 1973) and language development and symbolic representation (Vygotsky, 1967). The Early Childhood philosophy adopted by Alberta Education ("Philosophy, Goals, and Program

Dimensions", 1984) states that "children learn through interaction with their environment" and "play is essential to the child's development" (pg.3). The U.S. National Association for the Education of Young Children's (NAEYC, 1986) position statement on developmentally appropriate practices in early childhood programs, states that "a growing body of research has emerged recently affirming that children learn most effectively through a concrete, play-oriented approach" (pg. 4). Because play is a spontaneous and natural behaviour of children, it holds promise as a medium for intervention (Fewell & Kaminsky, 1988).

Odom et al. (1988), have developed a comprehensive intervention package to promote social integration based on research findings from ecological, peer-mediated and play intervention studies. The Integrated Preschool Curriculum (IPC) contains a large number of play activities (constructive, functional, sociodramatic or games-with-rules) to serve as a basis for social integration. While the effects of the IPC have been experimentally examined in integrated special education preschool classes (where the majority of the children are disabled) (DeKlyen & Odom, in press; Jenkins et al., in press; Odom et al., 1982), research has not been carried out in mainstreamed early childhood programs (where the majority of the children are not handicapped). Of particular relevance to this study are the sociodramatic play activities with Direct Instruction of Social Skills (D.I.S.S.)(Odom et al., 1988) which will be used as the independent variable. The sociodramatic activities in the curriculum are those where two or more children share in pretend or imaginary play, such as pretending to go camping or playing house.

Given that the absence of social skills is a major defining characteristic of children with disabilities (Strain & Kohler, 1988) and that future developmental outcomes for these children may depend on their social skillfulness with peers (Guralnick, 1982; Jenkins et al., in press) it can be seen why early childhood special educators are concerned with finding techniques to promote the social interaction of children with handicaps and their non-handicapped peers.

Kindergarten classes are characterized by large numbers (usually 20-25) of children, one or two adults, and child-directed play where children are free to choose their activities for much of the time the children spend at school. Such settings are very different from segregated or integrated special education classes characterized by a lower number of children (6-12), a high adult-child ratio and more structured activities. Consequently, many intervention techniques designed to increase positive social behaviours that may be effective in the latter setting, may not be effective in mainstreamed Kindergarten classes. The Kindergarten teachers usually do not have special education training, and do not have the time to monitor complex behavioural programs. Thus, there is a need to discover natural, play-based techniques which include both children with disabilities and the typically developing children.

This study is an attempt to address this problem in mainstreamed Kindergarten classes at Vital Grandin School in St. Albert, Alberta. Questions that are posed include whether or not children with moderate disabilities are socially integrated into their classrooms and whether manipulating environmental variables such as providing props for sociodramtic play, will increase the social interactions between children with special needs and their peers. Since language development is closely related to social skillfulness (Mori & Neisworth, 1984), the children's functional and social use of language will also be examined.

The following review of the literature will discuss social skill intervention for young children, mainstreaming, social integration, play, and the

Integrated Preschool Curriculum (Odom et al., 1988) in more depth. The rationale for the study and specific research questions will follow.

CHAPTER TWO

Review of the Literature

Introduction

A survey of the literature reveals that there is a plethora of research in the area of social skill development in young children with special needs. This is however, a fairly new field of investigation. Educators, having determined a need for specific interventions to increase the social skillfulness of young children with disabilities, have grappled with definitions of "social skill" (Conger & Keane, 1981; Gresham, 1981; Michelson & Wood, 1980) and the development of effective intervention strategies (Allen, Buell, Harris, Hart & Wolff, 1964; Barton, 1986; Gamble & Strain, 1979; Gresham, 1981; Iwata & Bailey, 1974; Strain, 1982; Strain & Odom, 1986).

The practice of mainstreaming has resulted in a number of areas of concern including: concerns with peer relationships (Guralnick, 1986; Hartup, 1976, 1978; Jenkins et al., in press, Odom, Hoyson, Jamieson & Strain, 1985; Strain & Odom, 1986); social integration (Guralnick & Groom, 1988; Jenkins, Spelz & Odom, 1985; McEvoy, Nordquist, Twardosz, Heckaman, Wehby & Denny, 1988; Odom, DeKlyen & Jenkins, 1984; Odom & McEvoy, 1988); and play (Bailey & Wolery, 1984; Fewell &

Kaminsky, 1988; McHale & Olley, 1982). These concerns dictate a need for different intervention techniques than were popular in the past since teachers in mainstreamed settings do not have the time to monitor complex behavioural programs; nor are Kindergarten classrooms conducive to such intrusive techniques since they are busy environments and tend to have large class enrollments.

The following discussion is organized into four broad areas exploring social skill intervention for young children with handicaps, mainstreaming and social integration, play and socialization, and the Integrated Preschool Curriculum (Odom et al., 1988). Within these general areas, the transition from early attempts at remediating social skill deficits to a conceptualization of performance deficits and the role of the child's environment in increasing social interactions will be discussed. Since there is a need for developing naturalistic, non-intrusive methods for promoting the development of appropriate social skills in early childhood classes, the review culminates with a description of the Integrated Preschool Curriculum (Odom et al., 1988) which was developed from research in peer relationships, social integration and play.

Social Skill Intervention for Young Children With Special Needs

a. History

The mainstreaming movement can be seen as an evolutionary trend in early childhood special education (Odom & McEvoy, 1988). Before the turn of the century there were no services for children with disabilities until isolated programs such as Maria Montessori's Casa dei Bambini were created. In general, children with handicaps stayed home or were institutionalized until the late 1960's when early intervention programs emerged. These first center-based educational programs were, for the most part, non-integrated and focussed on cognitive development, language acquisition and motor skills (Odom & McEvoy, 1988). The area of socialization often was examined as an after-thought or neglected altogether. During this decade, studies have indicated both long and short-term effects of social skill deficits. Strain (1981a) cited peer rejection, scapegoating, and poor self-esteem. Guralnick (1981a) and Hartup (1980) indicated that an absence of social skills inhibits the development of intellectual, language and related skills. As well, children may be predisposed to delinquency, sexual dysfunction and adult conduct problems (Roff, Sells & Golden, 1972).

Strain (1981b) indicated that social deficits which begin in the early years tend to become more debilitating without active intervention. Thus, a shift in focus can now be seen where the acquisition of social skills by young children with handicapping conditions is of upmost importance (Odom & McEvoy, 1988).

With the passage of the Education for all Children Act (P.L. 94-142) in the United States in 1975, professionals in the field of early childhood special education began to consider the integration of all children with disabilities into programs for typically developing children. These early efforts in integration spearheaded the widespread use of the term "mainstreaming", referring to the practice of enrolling handicapped and non-handicapped children in the same educational setting (Guralnick, 1978). Today, mainstreamed classes, especially at the early childhood level, are found all over North America.

In 1986, the United States Congress passed P.L. 99-457, The Education of the Handicapped Act Ammendments of 1986. With P.L. 99-457, the U.S. has taken one step closer to a national policy of access to services for all children who are handicapped and at-risk, birth through 5 years of age, and their families. P.L. 99-457 extends the provisions of P.L. 99-457 to all children 3 years of age by 1990-1991 and significantly increases funding for this age group (Smith, 1988).

Even though young children with handicaps are physically and temporally integrated into regular classes, most educators would agree that that is not sufficient. Today, the goal of mainstreamed early childhood classes appears to be social integration (Kaufman et al., 1975; Odom et al., 1982). As Guralnick (1982) stated:

> To many educators, social integration with classmates is the cornerstone of integrated education affecting virtually all other outcome factors. From the perspective of the handicapped child, extensive interactions among children with a range of abilities and skills may create social exchanges that produce a) improvements in general social and communicative development b) more realistic and adaptive social consequences, c) opportunities for handicapped children to cope with problems directly related to their handicaps and d) opportunities for observational and tutorial learning (p.72).

Given social integration as a goal and the fact that a fundamental deficit across almost all handicapping conditions (whether cognitive, sensory or motor) is social incompetence (Bailey & Simeonsson, 1985) it is easily seen why the investigation of patterns of social interaction between children with handicaps and normally developing children represents the most active research literature on integration today (Odom & McEvoy, 1988). By improving the social behaviour of handicapped children, improvements in social integration should follow (Guralnick, 1986).

b. Definition of Social Skill

A survey of the literature indicates a lack of consensus over the definition of "social skill". As Strain & Kohler (1988) discuss:

> At one end of the conceptual continuum, skills have been thought of as representing underlying personality types or traits (McFall, 1982). That is, extrovert, passive,and gregarious, for example, are terms representing more or less skillful behaviour. At the other conceptual extreme, skills are thought to be molecular units of behaviour (e.g. eye contact, voice tone, body posture) that are used in the course of social interaction (p. 130).

The American Association of Mental Deficiency (Grossman, 1973) described social skills in terms of adaptive behaviour (i.e. compliance to demands and expectations of society). Asher and Hymel (1981) described social skills within a peer-acceptance model, suggesting that social skillfulness is associated with popularity and friendship. Thus, being accepted and befriended is being socially skillful. Gresham (1986), viewed someone who is socially skilled as being able to perform competently in the presence of other people. Thus, possessing certain motor and verbal behaviours in one's repertoire implies being socially skillful.

Odom and McConnel (1985) stated that much of the more recent work on social competence has emphasized the interpersonal nature of social competence (common to all definitions of interpersonal social competence is the element of participation in, or knowledge about, social interchanges).

As Gresham (1981) stated:

> Past behavioural conceptualization of children's social behaviour emphasized negative aspects of deviant social behaviour such as behaviour excesses or deficits. Recent interest in the area of social skills training has focussed on positive as well as negative aspects of social behaviour..... This

> broadened emphasis extends beyond the study of individual responses to the study of situations or contexts in which social behaviour occurs (i.e. antecedents).(p. 141)

Currently, there are cognitive, behavioural and performance-based approaches to interpersonal social competence. The cognitive approach "emphasizes knowledge or understanding of social relationships, ability to assume other social perspectives or roles, or awareness of interpersonal goals (Odom & McConnell, 1985, p. 7). The behavioural approach "relates social competence directly to the children's actions in a social context rather than to children's knowledge of those actions" (Odom & McConnel, 1985, p. 8). Responses are made that produce positive effects for the interactors (Foster & Ritchey, 1979). An assumption is made here that particular social skills are the basis for socially competent behaviour and when deficits in social skills occur, interpersonal social difficulties usually result (Hops, 1983). However, as Sarason (1981) questions, is having the skills sufficient , or do they actually have to be used in appropriate settings to constitute social competence? The performance based approach, like the behavioural approach, views social competence as related directly to children's actions with other children or adults (Odom & McConnel, 1985) and states that while a child may possess the requisite social skills, he/she may not perform them at adequate levels (Gresham, 1981).

The performance-based approach also addresses social validity -- the question of whether these target behaviours are desired or valued by society (Gresham, 1986; Hops, 1982; Odom & McConnell, 1985). Thus, social competence "is a summary judgement about the adequacy of an individual's behaviour in social interactions" (Odom & McConnell, 1985, p. 8) and "the competence of an individual child's social performance is systematically evaluated by assessing the social impact of that behaviour upon others in the child's environment" (p.9).

Social performance deficits, therefore, describe children who have the social skills in their repertoires but do not perform them. Performance deficits may be related to lack of motivation or an absence of opportunity to perform the behaviour (Gresham, 1986).

In summary, early educational efforts for children with special needs were usually segregated programs which focussed on cognitive, language and motor areas. Today children with handicaps are often integrated into regular early childhood programs where the focus of instruction has shifted in many cases to the area of social skill development.

c. Social Intervention Strategies

While there is a lack of agreement on the definition of social skill, it can be seen that the orientation that one adopts dictates the intervention method used (Strain & Kohler, 1988). Gresham (1981) reviewed behavioural techniques from social learning theory and divided intervention strategies into four broad areas -- studies that a) manipulate antecedents, b) manipulate consequences, c) use modelling or d) use cognitive-behavioural techniques. He conceptualized social skills deficits along three dimensions: 1) skill deficits, 2) performance deficits and 3) self-control deficits. Children with social skill deficits do not possess the requisite social skills to interact appropriately with peers so modelling or observational learning may be effective. Proponents of mainstreaming often assume that children with handicaps will spontaneously model the typically developing children in their classes. Gresham (1981) pointed out however, that "the research concerning the use of modelling with handicapped children suggests that modelling effects do not occur unless specific teaching procedures are employed (calling attention to the model, reinforcing the model, using competent model, etc.)" (p.159). Some children may have the social skills for effective interaction., but do not perform them, either because of low motivation or response-inhibitory anxiety (Gresham, 1981). Such deficits could be remediated through manipulation of antecedents or consequences of social behaviour. With children exhibiting performance deficits, (i.e. they possess the necessary social skills but are not performing them at desirable levels) social skills may be successfully trained by manipulating antecedent events in the child's social environment (Gresham, 1981). Antecedent techniques include peer initiations (Strain, 1982; Strain & Odom, 1986), sociodramatic activities (Odom et al., 1988; Smilansky, 1968; Strain, 1975; Udwin, 1983) and contingent social reinforcement programs (Iwata & Bailey, 1974).

Odom et al. (1986) demonstrated that training peer confederates to initiate play with handicapped preschoolers increased the types of social interaction related to socio-metric acceptance by non-handicapped children. The use of peers could also facilitate generalization (in that the handicapped children are not always focussing on the adult in the room). According to Gresham (1981), antecedent control of social behaviour has the advantage of requiring less teacher time and active monitoring than do consequent control techniques such as praise, shaping, etc.

Children with self-control deficits often do not possess behavioural controls to inhibit impulsive or disruptive behaviour. Thus, while these children may perform certain behaviours, they may be inappropriate under the environmental circumstances. Cognitive behaviour modification techniques (eg. verbal mediation, relaxation, self-reinforcement) may be appropriate in these situations.

In discussing social performance deficits, Gresham (1986) stated that since difficulties either in stimulus control or reinforcement contingencies are functionally related, training strategies should focus upon both antecedent and consequent control techniques.

Recently, research suggested that investigators in early childhood education are shifting their focus away from a skill-based orientation regarding socialization to an interactional view focussing on the importance of the "child-environment fit" (Sainato, 1985). That is, the environment-subject relationship is viewed as a dynamic interplay in which changes in one affect changes in the other (Patterson & Moore, 1979). According to Rogers-Warren and Wedel (1980) every classroom may be viewed as a singular ecosystem in which the physical arrangement of the room, the available materials, individual children (and their competencies) continuously interact to form a unique environment. Carta et al., (1988) described static (materials, spatial arrangement and classroom composition) and dynamic (i.e. teacher behaviour variables) ecological variables as having an impact on the behavour of young children.

To summarize, children may demonstrate social skill deficits, social performance deficits and self-control deficits. Different social skill difficulties may dictate different interventions. An interactional view to social skill acquisition focussing on both the child and his/her environment is emerging.

d. Generalization of Social Skill Interventions

Generalization has been defined in the applied literature as "the occurrence of relevant behaviour under different non-training conditions (i.e. across subjects, settings, people, behaviours and/or time) without the scheduling of the same events in those conditions as had been scheduled in the training conditions" (Stokes & Baer, 1977, p. 350). There is increasing evidence that generalization does not occur for most educational training programs for children with handicaps (Baer, Wolf, & Risley, 1968) and that generalization requires an active stance by the trainer and must be programmed into any social skills intervention program (Michelson & Mannarino, 1986). As Michelson and Mannarino (1986) stated "the more common approach to generalization is to train and hope" (p.398).

Stokes and Baer (1977) and Michelson, Sugai, Wood and Kazdin (1983) posited the following strategies for promoting generalization beyond the training setting, including maintenance over time and transfer across other settings: 1) teach behaviours that will be supported by the natural environment, 2) teach a variety of responses, 3) "train loosely" under varied conditions, 4) train across multiple persons and settings common to the natural environment, 5) fade training consequences to appropriate natural contingencies, 6) reinforce accurate self-reports of performance (verbal mediation), 7) train the ability to generalize by reinforcing new appropriate applications and 8) use peers as change agents.

Thus, any social skill intervention program designed for use with young handicapped children needs to address the issue of generalization. If social integration is the goal of mainstreamed early childhood programs, it is clear why concerns over generalization cannot be dismissed.

In summary, integrating children with handicaps into early education programs for normally developing children is common practice today. Developing social competence is considered very important for young children with special needs. How one defines social skills and how one goes about teaching social skills however, is a subject of much debate. Compounding the issue is the evidence that generalization to settings other than the treatment setting often does not occur. Since social integration is considered by some to be a goal of mainstreamed early childhood classes, studying peer relations between handicapped and non-handicapped children and developing intervention techniques useful in mainstreamed early childhood classes is essential.

Mainstreaming and Social Integration

a. Benefits of Mainstreaming Young Children with Disabilities

Some of the postulated benefits of integrating delayed learners with non-handicapped students include the view that mainstreaming is expected to normalize the educational setting and process (Wolfensberger, 1972). As well, it has been predicted that children with disabilities in mainstreamed settings would demonstrate accelerated academic and developmental progress (Guralnick, 1981a) and increased social competence (Vincent, Brown & Andgetz-Sheftel, 1981). Non-handicapped peers in mainstreamed classes may model age-appropriate behaviours that less advanced children with handicaps might acquire through observational learning (Turnbull, 1982) and by creating a more advanced cognitive and linguistic environment, children with disabilities may acquire more advanced skills (Guralnick, 1981a). Benefits for the typically developing children, include the possibility that they would more readily accept their peers with disabilities in integrated settings (Esposito & Peach, 1983; Stainback & Stainback, 1982),and possibly acquire greater developmental skills (Strain, Hoyson & Jamieson, 1985). Indeed, White (1980) stated that during the preschool years at least, acceptance of handicapped children by non-handicapped peers is high.

b. Spontaneous Social Integration

Social integration may be the variable that mediates developmental outcomes for young children with handicaps in integrated settings (Jenkins et al., in press). This is important since it suggests that promoting social integration within mainstreamed early childhood classrooms may be necessary before one can expect gains in other major developmental areas. Addressing the issue of whether or not spontaneous social integration occurs given the physical integration of handicapped and non-handicapped children, Van den Pol, Crow, Rider & Offner (1985) observed preschool children during unstructured time in classroom play and found that indeed spontaneous integrated interactions can occur in mainstreamed classrooms. Their results were consistent with those found by Peterson and Haralick (1977) who also suggested that spontaneous social integration does occur and that handicapped children are not socially isolated during the free play activities in their classrooms. These authors reported overall social engagement in more than half of their observations. These two studies, however, were carried out in settings where the majority of the children were handicapped. The majority of other studies which address this issue, contradict their findings. Porter et al. (1978) compared the social interactions of heterogeneous play groups of normally developing and handicapped children. Within each group, the disabled children (mean I.Q. of 55) and their non-handicapped peers were matched for age with the latter being about one year younger than the handicapped children. It was found that non-handicapped children maintained proximity to, and interacted more, with other non-handicapped children. The children with handicaps were indiscriminate as to whom they played with. Similarly, Guralnick (1980), interested in the possibility that social integration decreases as the developmental levels of the handicapped children decrease, studied social interactions in preschool children and found that moderately and severely mentally handicapped children were interacted with less frequently by both non-handicapped and mildly handicapped peers. The moderately and severely handicapped children however, showed no preference for any developmental level group.

Odom and McEvoy (1988) reviewed 22 studies investigating social interaction and concluded that "normally developing children tend to interact more frequently with peers who are also normally developing or mildly handicapped, than with peers who are moderately or severely handicapped, regardless of the ratio of handicapped to non-handicapped children" (p. 244). Guralnick (1984, 1986) suggested that although a relatively high frequency of social interactions may occur between non-handicapped and mildly handicapped children, the quality of the interactions may not be very high.

Evidence just cited suggests that social integration may occur for children with mild handicaps in integrated programs but that, in general, it appears that advanced social interaction skills will not occur for children with moderate or severe handicaps unless there is active intervention (Odom & McEvoy, 1988). As Gresham (1981) pointed out:

> Handicapped children do not vicariously acquire social skills via observation of non-handicapped models unless they are instructed, trained, or reinforced for doing so.....These special children are in need of social skill training to increase their rate of positive social interaction, decrease their rate of negative social interaction and/or enhance their social acceptance by non-handicapped peers. (p.148)

c. Peer Relationships Between Children With and Without Handicaps

There is no doubt that establishing successful relationships with one's peers is one of the most important accomplishments of early childhood (Guralnick, 1986). Programs for children with disabilities have forced educators to face issues that are directly related to the social behaviour of children with special needs and their peers (Guralnick, 1978). Evidence suggests that a child's peer contribute significantly and uniquely to the development of children's social and communicative competences (Hartup, 1976, 1978; Jenkins et al., in press). The social integration of children with handicaps and their normally developing peers may be affected by such variables as the peers tolerance for differences, social history with handicapped children, access to appropriate role models, regularity of exposure to handicapped children and prior training on how to interact with handicapped children (Strain & Kohler, 1988).

In order to understand the early peer relations of children with disabilities, one must be knowledgeable about the peer relations of normally developing children as the skills and strategies that children employ to enter, maintain and terminate social interactions may lead to better designs of intervention techniques. Guralnick (1986) outlined the developmental stages of peer interactions of non-handicapped children and described smiling, vocalizing, gesturing, looking, touching and approaching other children, as being common occurrences at 6 months of age. Later on, social interactions involving objects --offering, sharing and taking toys could be seen. By two years of age children started to initiate to peers and respond to social bids. Elaborate interchanges (four or more) occurred more frequently after 30 months.

Guralnick (1986) extensively reviewed the literature on the peer relations of children and pointed out that the development of peer social exchanges is facilitated by the reciprocal relationships that characterize social-communicative interactions. He stated:

> Although the exact processes through which these skills and abilities are acquired are not well understood, they appear to be linked to the co-equal qualities of child-child social exchanges. The contrasts between typical adult-child and child-child interactions are particularly noteworthy. For example, adults typically provide a highly responsive and often anticipatory social environment in which they tend to be the initiators. Child-child exchanges, in contrast, rely on the effective participation and balanced contribution of both partners. (p.94)

Determing the skills and techniques that children use to enter, maintain, and terminate social interactions with their peers, may assist investigators in designing intervention strategies for children with special needs.

In a study by Guralnick and Weinhouse (1984), seeking to describe the organization, characteristics and developmental progression of a range of peer-related behaviours, it was seen that the peer-related social behaviours for a significant proportion of young delayed children lagged substantially behind their level of cognitive development. This suggests that it is not that they do not have the ability to interact socially but that for some other reason (eg. related to programmatic factors, teachings strategies, etc.) they are not interacting with their peers.

Looking at possible causes of peer interaction deficits in handicapped children, Guralnick (1986) postulated that one major contributing factor may be the corresponding deficit in expressive language that is characteristic of most developmentally delayed children. Language plays a very important role in regulating social play interactions and a child's inability to converse during play is detrimental to peer relationships.

Guralnick stated that:

> Deficits in expressive language limit the development of higher forms of group play; in turn, handicapped children have fewer opportunities to learn the social, play and communicative skills that are unique to and emerge from child social interchanges.(1986, p.121)

Still, non-handicapped peers have successfully used various techniques in mainstreamed settings to increase the frequency of social interactions made by the handicapped children in their classes (Strain, 1977). According to Strain and Odom (1986) interest in peers as intervention agents stemmed directly from the treatment limitations associated with teacher-mediated interventions. They stated that while teacher prompting and reinforcement procedures have proven to be successful in producing treatment effect, they tend to interrupt ongoing interactions between children. They produce more but decidedly brief interaction episodes. Teachers in mainstreamed settings also do not have the time to devote their entire attention to one or two children.

To quote Strain and Odom (1986):

> Unlike many intervention procedures associated with behavioural teaching and research tactics (eg. prompting, shaping, differential attention) the peer social imitation intervention has emerged largely from a non-operant conceptualization of social behaviour with strong roots in developmental research and naturalistic methods of child study. (p.544)

According to these investigators, optimally effective use of peer imitation requires special attention to a) selecting specific peer initiations, (play organizers, shares, physical assistance and affection) b) arranging the physical environment to promote interaction, (play materials, play activities, and the physical arrangement of the classroom) c) training peers to implement the intervention and d) conducting daily intervention sessions. Odom et al. (1988) recognized the importance of both teacher directed activities (teaching initiation strategies to children with handicaps) as well as peer-mediated responding strategies when they developed their social integration curriculum - the Integrated Preschool Curriculum.

According to Guralnick, (1981) and Rogers-Warren & Wedel (1980), ecological variables have a major influence on peer-related social behaviour. They stated that "the type of play area and the corresponding toys and equipment that are available in that area are especially influential" (p. 101). As well, increases in spatial density may be associated with lower levels of social interaction (Loo, 1972) and at least for younger children, small social groups may encourage social exchanges (Vandell & Mueller, (1980).

To summarize, there appear to be benefits to mainstreaming children with handicaps in regular early childhood programs. Although children may be physically and temporally integrated, social integration usually does not occur without active intervention. Several investigators have looked at peer relations between children with disabilities and their non-handicapped classmates. The peer-related social behaviour of delayed childr[illegible] lag behind their level of cognitive development and it was suggested that deficits in expressive language may be a contributing factor. Recently, peers have been taught to increase the social interactions of their peers with special needs and ecological variables have been investigated as possibly contributing to enhanced peer social relationships.

Play and Socialization

a. Development of Play in Non-Handicapped Children

It is widely accepted that there is an interrelationship between cognitive and play development (Fink, 1976; Lowe, 1975) and that play is also an important medium for linguistic (Vygotsky, 1967) and social development (Bailey & Wolery, 1984; Bretherton, 1984).

Recent studies of the development of play have indicated that play follows a regular developmental sequence in infancy and childhood (Fewell & Kaminsky,

1988) with advanced play skills requiring an increased capacity for representational thought (Ungerer, Zelazo, Kearsley & O'Leary, 1981). Critical cognitive abilities leading to advanced levels of play begin with the acquisition of object permanence and also include the development of language as a symbol system, the ability to imagine things or events not present and represent them in some way, and reduced egocentrism (Bailey & Wolery, 1984). One of the earliest studies on play was conducted by Parten (1932) who observed the social behaviour of nursery school children and found that social participation increased with the age of the child. She formulated a social play hierarchy and defined six sequential social participation stages: 1) unoccupied behaviour, 2) solitary play, 3) onlooker behaviour (2-2 1/2 years), 4) parallel play (2 1/2-3 1/2 years), 5) associative play (3 1/2-4 1/2 years), and 6) co-operative play. The author's suggestion that solitary play may be an indicator of poor social or cognitive adjustment however, has been contradicted by Moore, Evertsson & Brophy (1974). They postulated that 50% of all the solitary play of kindergarten aged children was goal-directed and educational. This is important to keep in mind when assessing the social behaviour of young children. Barnes (1971) further suggested that contrary to the ages that Parten associated with each social participation category, 3 and 4 year old children spend a lot more time in unoccupied, solitary and onlooker activity and less time in associative and co-operative play. This implies that one must be cautious when relating particular social participation stages to various ages.

Piaget (1962) formulated a cognitive play hierarchy composed of three successive stages depending on whether play is purely sensorimotor or whether it is related to thought. For Piaget, play is assimilation, one of the processes children use to achieve balance or equilibrium. The other process, accommodation, refers to children altering their behaviours or knowledge to match their perceptions of the world. Imitation is an example of accommodation. We change our world through accommodation to match our present cognitive abilities (Bailey & Wolery, 1984). Thus, a child can "take the world" and make it into whatever he or she wants it to be. A broom can become a horse; a stick can become a spoon. Smilansky (1968) expanded Piaget's cognitive hierarchy into four categories labelled 1) functional play (simple repetitive muscle movements with or without objects), 2) constructive play (manipulation of objects to construct or to "create" something), 3) dramatic play (the substitution of an imaginary situation to satisfy the child's personal wishes and needs), and 4) games-with-rules (the acceptance of pre-arranged rules and the adjustment of these rules).

b. Symbolic Play, and Its Relation to Cognitive, Language and Social Development

Symbolic play, or representational play, occurs when a child starts to use objects in a "pretend" manner, such as "eating" from an empty spoon then smacking lips (Musselwhite, 1986). Jeffree, McConkey & Hewson (1977) suggested that symbolic or imaginative play assists young children in 1) developing thought and language, 2) understanding others as feelings and roles are explored, 3) developing creativity and 4) coming to terms with the self (especially important for children with disabilities). Odom et al. (1988) also suggested that "cognitive and social benefits may accrue to children who play with other children, especially if they engage in dramatic play" (p.8).

The beginning of symbolic play during the second year of normal child development is marked initially by the continuing increase in play behaviours that mimic real-life activities (Fewell & Kaminski, 1988). The earliest form of symbolic play is referred to as decontextualization when a child demonstrates how an object can be used away from the usual contexts in which the behaviour typically occurs. Ordinary household objects are the material usually used. Eventually (around 18-24 months) children use symbolic objects in play that are unlike those used in real life. At around 3 years of age, imaginary objects are used to symbolize absent objects. Being able to incorporate others into pretend play is referred to as decentration (Piaget, 1962). At first, action is directed at animate objects (eg. mother) and then toward inanimate others (eg. a doll).

Single scheme combinations (eg. child stirs in a cup, then stirs in a pot) are eventually replaced by the development of multi-scheme combinations (2 or more different acts performed successively (eg. getting a baby bottle, feeding the doll, then "burping" it) (Fewell & Kaminsky, 1988).

Fein (1981) carried out a correlational study that assessed the ability to comprehend language and the capacity for symbolic play in 1 1/2-2 1/2 year olds. Fein's findings parallel those found by Vygotsky (1967) who has written extensively on the relation between language and play and suggest that a child's comprehension of relationships between words and objects is related to the occurrence of mature symbolic play forms.

Bretherton (1984) has written extensively on symbolic play and its relation to the development of social understanding. She credits much of the research on symbolic play and the idea that representation is a dynamic process instead of a static collection of symbols, to Piaget, even though he did not apply this kind of thinking to his own study of imaginary play.

According to Bretherton (1985), Piaget (1962) emphasized the incoherence of pretending despite observations illustrating its structure and coherence and viewed a child's ability to disregard reality "as it is" as an example of egocentric, nonsocialized thought which demands no explanation in cognitive terms. As well, it was his belief that pretending only continues until the child can effectively accommodate to the real world. Piaget (1962) stated that:

> Symbolic games decline after the age of four, for reasons which it is very important to discover, since they also explain why these games are so numerous earlier. In a general way it can be said that the more the child adapts himself to the natural and social world the less he indulges in symbolic distortions and transpositions, because instead of assimilating the external world to the

> ego he progressively subordinates the ego to reality. (p.145)

Bretherton (1984), however, although influenced by Piaget, disagreed with some of his views and felt that he "unjustly disregarded the implications of figurative representation for cognitive development" (p.5) and further suggested that at the most basic level, representation may not be organized in terms of classification hierarchies but in terms of event schemata or scripts that are skeletal frameworks of everyday events (Schank & Abelson, 1977). The script model, according to Bretherton (1984), is appealing because, unlike the static traditional models of knowledge, it accounts for the dynamic relationships between agents, recipients, objects and actions that make up everyday social interaction. She further suggested that if the basic representational schemata are meaningful events, not disembedded units, then infants should have the ability to represent an experience in terms of temporo-causal relations among actors, recipients, objects and locations. Certainly language acquisition studies suggest that children encode semantic relations (events) into single word utterances (Bloom, 1973).

Bretherton's belief was not that symbolic play faithfully reflected a child's ability to represent the social world but that it constituted "experimenting" or "playing" with that ability. "The ability to create "what if's", to function in the subjunctive and simulative mode, is itself a vital aspect of human experience and hence of social understanding" (p. 38).

Initially, role and action representation are affected by the availability of realistic props and only later on in development, can objects be mentally transformed into other objects. Wolf and Grollman (1982), however, suggested that a child's preference for realistic objects over substitutes or counter conventional objects may be more a matter of cognitive style than of developmental level.

To summarize, symbolic play is important for children in the development of cognitive, language and social abilities. At early stages, symbolic play is characterized by a child's ability to incorporate others into pretend play.

c. Play and the Child With Special Needs

A handicap may adversely affect a child's social development and play behaviour (Bailey and Wolery, 1984). In a review of the literature, Li (1981) concluded that the play of children with mental disabilities differs both qualitatively and quantitatively from those of normally developing children. Wing, Gould, Yeates & Brierly (1977) suggested that the delay in play skills shown by children with disabilities was primarily due to the close relationship between play and cognitive development. Studying severely mentally handicapped children 5-14 years old, these authors found that symbolic play occurred only when children had mental development and language comprehension development scores of 19 months or more. Working with children with Down Syndrome, Hill and McCune-Nicolich (1981) found that symbolic play was more highly related to a child's cognitive abilities than chronological age. Thus, critical cognitive skills must be developed before true co-operative social play can result. However, children with disabilities can be taught co-operative play behaviours even though they might not possess cognitive skills (Bailey & Wolery, 1984).

d. Play As a Medium For Social Skill Intervention

According to Fewell and Kaminsky (1988), it is widely accepted that play promotes cognitive growth (Piaget, 1962) by providing a medium for the development of problem solving skills (Bruner, 1972), the discovery of new combinations of behaviours with objects (Smith & Sutton, 1979), the consolidation and strengthening of newly learned skills (Fein & Apfel, 1979), and the facilitation of creative and flexible thinking (Singer, 1973). As well, play is believed to be a primary source of linguistic development (Vygotsky, 1967). For children with disabilities, however, play is often overlooked as a critical objective for instruction or as a strategy to facilitate learning (Fewell & Kaminsky, 1988). Yet, Fewell and Kaminsky (1988) stated that:

> Despite the limited respect "play" has had as a viable development and instructional research domain, evidence substantiating the importance of play is emerging. As a result, many early chidhood specialists are regarding play activity as a medium for the consolidation and acquisition of skills that relate to all areas of the child's early development. (p.150)

According to McHale and Olley (1982), "peers can be used as agents for improving handicapped children's social behaviour. Most of the studies of peer influences on social development have been conducted in play settings and have been designed to affect play and, consequently social behaviour in general" p. 81. Odom et al. (1988) stated that "play is the primary medium through which social integration may occur"(p.6).

Social interactions among young children may be increased by manipulating environmental or ecological variables related to play (Bailey & Wolery, 1984). These include a) providing social toys such as dramatic play clothes and puppets (Quilitch & Risley, 1973), b) matching toys and materials to the developmental level of children, c) considering the effects of spatial organization on social play (Kinsman & Berk, 1979), d) providing some low-structure time (Huston-Stein et al., 1977) and e) structuring small play groups to encourage social exchanges (Vandell & Mueller, 1980). DeKlyen and Odom (in press) observed a greater frequency of peer interactions in play activities that were more structured but did not determine the quality of the play. They suggested that such simple environmental manipulations are less labor-intensive and may be more feasible for teachers to implement in their classes.

However, as Guralnick (1986) stated:

> No research has probed deeply the organizational features of the peer interactions of handicapped children, particularly whether their play interactions are affected by factors such as familiarity, types of toys available, teacher behaviour, and other ecological environmental variables known to alter the social interactions of normally developing children. (p.116)

e. Sociodramatic Play and Social Integration

> "According to Piaget, pretend play is initially a solitary symbolic activity. Sociodramatic play (i.e. collective symbolism) does not begin until the latter part of the third year of life......Indirect evidence suggests that a shift from solitary to social pretense may occur at about 3 years of age" (Fein, 1981).

The ability to take part in joint pretend play is a relatively sophisticated form of pretend play usually appearing as children reach three years of age. Dunn and Dale (1984) however, studied differences in 2 year old children's play with their mothers and their play with an older sibling and found that these young children can, in the context of the sibling relationship, take part in joint role enactment and role-play. They could make explicit a transformation of their own identity and could share a framework of pretend play with another person. This did not happen when mothers were role playing with their children. Mothers usually remained in the role of interested spectator and avoided the adoption of pretend actions or identities even though they knew they were expected to participate in pretend play with their child. It is suggested that the familiarity of the social world of sibling and child, the support of the sibling and the older child's powerful status and proficiency in the world of pretend all play a significant role in the difference found. The findings suggest that there may be different developmental routes to the achievement of social understanding upon which joint role-play depends and that it presumably fosters. The experience of playing with an older sibling, while still only two years of age may "provide a route by which children discover and explore in play the power and delight of role transformation and shared role-play" (Dunn & Dale, 1984, p.150).

These findings that children as young as two years of age can participate in play activities with siblings have implications for examining the ability of children with mild or moderate disabilities to participate in socio-dramatic play activities and suggest that peers might be instrumental in encouraging handicapped children to join in pretend play.

Given the potential positive benefits of symbolic play to certain areas of development, (Guralnick, 1982; Jenkins et al., in press) and the social nature of sociodramatic play, it can be understood why a few investigators have studied this level of play in children as facilitating social interactions with others and have examined whether or not sociodramatic skills can be taught (Freyberg, 1973; Odom et al., 1988; Rosen, 1974; Smilansky, 1968; Strain, 1975; Udwin, 1983). Odom et al., (1988) stated that "there seems to be general agreement that children may learn to assume roles, exchange roles with other children and better understand the perspective of other children as a result of engaging in or being taught to engage in sociodramatic play" (p.8). These studies are examples of interventions where antecedant ecological variables are manipulated to facilitate social integration. Except for a couple of studies carried out by Strain (1975) and Odom et al. (1988), investigators have explored sociodramatic play and the development of increased social skills in disadvantaged children (Frayberg, 1973; Rosen, 1974; Simlansky, 1968 and Udwin, 1983).

In an extensive study of the effects of sociodramatic play in disadvantaged preschool children in Israel, Smilansky (1968) compared the sociodramatic play of culturally advantaged and of culturally disadvantaged children using five categories: 1) play themes and roles, 2) utilization of toys and objects during play, 3) the function of verbalization in the play, 4) the function and behaviour of the leader and 5) the handling of problems, tensions and deviances. She found that most disadvantaged children do not engage in dramatic play at all. A quantitative comparison of speech samples was recorded during sociodramatic play and differences were found in each of the measures applied: amount of speech, length of sentence and length of utterance, proportions in parts of speech and range of vocabulary.

An experiment was designed in which three different methods of adult intervention were applied to test their efficiency in furthering the sociodramatic play of the disadvantaged children. Treatment 1 provided the children with as many additional experiences (eg. visiting the doctor's office) as possible to see if knowledge and understanding alone were sufficient to stimulate sociodramatic play. Children in treatment 2 were "taught" how to engage in and sustain sociodramatic play but no additional experiences (as in treatment 1) were provided. In treatment 3, both treatment 1 and 2 were combined. It was found that children in the experimental group receiving treatment 1 did not improve, suggesting that the provision for general cognitive requirements is not enough to boost disadvantaged children's play ability. Children in treatment 2 improved significantly and children in treatment 3 improved the most (i.e. when experiences are provided along with play techniques). For children with I.Q.'s over 70, no relationship was found between I.Q. and attainment in sociodramatic play.

Rosen (1974) examined the effects of sociodramatic play on problem solving behaviour, on the psychological distance between the disadvantaged child and others and on role-taking skills among culturally disadvantaged preschool children. The intervention technique consisted of entering into the children's play as a role-playing model, rather than performing a typical teacher role. While playing with the children she attempted to introduce new problems, ideas, themes or incidents. The results indicated that following sociodramatic play intervention, the disadvantaged children in the treatment group increased their problem solving skills significantly. Rosen's hypothesis that sociodramatic play would lead to a reduction in the psychological distance between a child and others is an interesting one. She theorized that sociodramatic play provides a child with a positive experience so children with handicaps could become increasingly attractive since they were instrumental in making this positive experience possible. This idea is certainly one well worth investigating in terms of the social integration between handicapped and non-handicapped children.

Udwin (1983) examined whether imaginative play training accompanied positive emotionality, prosocial behaviours and a decrease in overt aggression, in preschoolers institutionalized because of deleterious family backgrounds. Significant increases in imagination, positive affect and co-operation in the experimental group were found as well as decreased aggression. Similarly, Freyberg (1973) taught lower socio-economic 5 year olds to play more imaginatively which was associated with increased verbal communication, longer, more complex sentence use, increased attention span and more positive expression of emotion. In training, Freyberg used modelling and prompting techniques to encourage fantasy play but then gradually excluded herself.

Of special relevance to this study is an investigation by Strain (1975), demonstrating that the presentation of sociodramatic activities functioned to increase the amount of social play exhibited by severely handicapped preschool children during free play. While the sample size was small, generalization was poor and the intervention was carried out in a segregated setting, Strain's findings are encouraging. They suggest that if significant increases in social play were found for severely disabled children, then significant results could also be found for mildly and moderately disabled children who possess greater skills in all developmental areas. Strain points out that environments can be arranged to set the occasion for social play and that sociodramatic play requires minimal teaching time and minor changes in classroom routine. Thus, "there is a fair amount of correlational evidence and some experimental evidence that the ability to fantasize is a useful skill for children. Fantasy ability is associated with improved social and cognitive performance and it appears to be a teachable skill" (Strayhorn & Strain, 1986, p.302)

In summary, several investigators have examined the development of play. The play behaviour of children with disabilities may differ both quantitatively and qualitatively from that of normally developing children. The possible relationship between symbolic or representational play to the development of thought and language, to understanding others and to coming to terms with the self, however, suggests a need for research into the development and facilitation of play in children with handicaps. Sociodramatic play (or shared symbolic play) has been investigated as an antecedent ecological variable that can be manipulated to facilitate the socialization of disadvantaged children.

Strain (1975) examined its use to increase the social play of severely handicapped preschoolers in a segregated setting and Odom et al. (1988) looked at different play activities, including sociodramatic play, as a vehicle for facilitating social integration when they developed their Integrated Preschool Curriculum. However, further research is required, especially in mainstreamed classrooms.

The Integrated Preschool Curriculum (IPC)

The IPC (Odom et al., 1988) is a curriculum designed to 1) promote social integration of handicapped and normally developing children enrolled in integrated preschool programs, 2) promote social interaction among all children (here the partners in the social exchange are not specified) and 3) teach children to play with materials appropriately. As the authors stated, the acquisition of play skills should take precedence over the more advanced goal of social integration. Because play activities constitute the primary setting in which social integration occurs, the curriculum is designed to be used in such contexts. The IPC has three components: Social Integration Activities, Assessments, and Direct Instruction of Social Skills (DISS).

a. Social Integration Activities

The social integration activities are the "heart" of the Integrated Preschool Curriculum and are designed to be implemented during play periods. The activities are divided into four types 1) functional, 2) constructive, 3) sociodramatic and 4) games-with-rules (similar to Smilansky's (1968) play hierarchy). The children are grouped in ways to promote social integration and the groups move from one activity to another. The activities "are designed to teach children to play with materials appropriately, imitate the play of more advanced peers, share or trade play materials, communicate with peers in a play context, originate and exchange play ideas and assume a role in sociodramatic play" (p. 16). Child objectives, the teacher's role, and possible teacher prompts are included for each activity (see Appendix A). Two levels for each activity are included, allowing teachers to emphasize play skill or social integration objectives.

The curriculum suggests three activities per day for a total of 30 minutes, The curriculum specifically outlines the role of the teacher in the activities and suggests that teachers begin an activity by 1) describing ways to use the play materials, 2) prompting or suggesting to the children how to do or say something, 3) supporting social interactions (being aware of children's attempts at social interactions and making them successful, 4) commenting and reinforcing (to give children ideas and to call attention to children's play), 5) building skills through modeling and imitation, 6) encourage sharing, and 7) organizing the play activities.

b. Assessments

Two assessment instruments are described in the Integrated Preschool Curriculum -- The Teacher Rating Scale of Social Interaction and the Social Interaction Scan. The Teacher Rating Scale is an eight item teacher rating measure of children's play behaviour and social interaction with peers. The Social Interaction Scan is an observational instrument which gives a teacher information about the social behaviour of each child in his/her classroom.

c. Direct Instruction Of Social Skills (DISS)

According to the IPC, two general classes of social behaviour need to be increased for children who do not readily play with their peers -- 1) responding behaviours and 2) initiating behaviours. The authors stated that both these components should be present for a social skill training program to be successful. The DISS section outlines in much detail, procedures for teaching initiating skills (mainly teacher directed) and responding strategies (which are peer-mediated).

According to the authors, the sociodramatic play activities in the curriculum are the best activities to use for DISS because they provide more opportunities for children to initiate and to respond to peers. (See Appendix B for D.I.S.S. scripts)

Summary

Proponents of integrated early childhood education are faced with a problem. Early childhood philosophy states that children learn best through play. Yet, special educators suggest that structured learning is necessary (DeKlyen & Odom, in press). Social integration is seen as a goal of mainstreamed classes but, does not occur without active intervention.

Finding a play-based approach to encouraging social integration in classrooms for young children is necessary. The Integrated Preschool Curriculum looks promising in meeting this need. Component analysis of the curriculum would be advantageous, however, so that teachers would not feel that implementing the entire program is required. This study, focussing on the Direct Instruction of Social Skills within sociodramatic activities, is a step in that direction.

CHAPTER THREE

Rationale

As the preceding literature review has indicated, the social relationships between young children with handicaps and their non-handicapped peers should not be neglected. Not only is the social integration of young children with special needs considered to be a goal of many mainstreamed early childhood education programs (Kaufman et al., 1975; Odom & Speltz, 1983) but, as Guralnick, (1982) has suggested, "To many educators, social integration with classmates is the cornerstone of integrated education, affecting virtually all outcome factors" p. 72. However, the research literature also revealed that when children with handicaps and typically developing children attend the same class, the non-handicapped children interact more frequently with the other non-handicapped children to the exclusion of the children with special needs (Odom & McEvoy, 1988). Thus, specific procedures for socially integrating these children must be implemented if such programs are to be successful (Odom et al., 1988).

There have been numerous studies carried out to investigate intervention techniques to increase the social competence of young children with handicaps. Most of these studies have been implemented in either segregated (Strain, 1975; Strain et al., 1976) or integrated (DeKlyen & Odom, in press; Jenkins et al., in press; Odom et al., 1984, 1985; Peterson & Haralick, 1977) special education programs. However, many children with disabilities are now being mainstreamed into regular early childhood classes which are usually larger, have a greater teacher/child ratio and are not conducive to time-consuming,intrusive intervention techniques designed for one or two children in the class. As well, many early childhood programs have adopted an early childhood philosophy which essentially states that young children learn through child-directed activities and play ("Philosophy, Goals and Program Dimensions", Alberta Education, 1984).

This is the second year that mild, moderately and severely disabled children have been integrated into the regular early childhood classes at Vital Grandin School in St. Albert. Paralleling the findings in the literature, many of these children, while temporally and physically integrated, are not, according to their teachers, socially integrated into their classrooms. During center time when the children in the class are basically free to choose their own activities, these young children can be seen playing beside other children or alone. Their teachers have stated that very infrequently is there any conversation between them and their typically developing peers, even though all can speak with a least a three word phrase and a few children speak in sentences.

Researchers and educators are challenged, then, to discover social skill intervention techniques that focus on play, very important to stimulating all areas of development (Fewell & Kaminsky, 1988) and peer-relationships, the establishment of which is one of the most important accomplishments of early childhood (Guralnick, 1986). As well, it may be beneficial to ascertain which children demonstrate social skill deficits versus performance-deficits (Gresham, 1981) to assist in the development of intervention programs that may be better suited to one type of child or the other. As Gresham (1981) pointed out, children with performance deficits (who possess the social skills but are not performing them) may benefit from techniques that manipulate antecedents or that manipulate consequences. Other children may benefit from observing or modelling, and still others, from cognitive behavioural techniques. The Integrated Preschool Curriculum (Odom et al., 1988) is multi-faceted and comprises all of the above. Focussing on play and peer-mediated approaches, it begins to address these concerns and it has been applied successfully to promoting the social integration of preschoolers with disabilities in integrated special education classes (deKlyen & Odom, in press; Jenkins et al., in press; Odom et al., 1982). The curriculum, is organized according to Smilansky's (1968) developmental levels of play (functional, constructive, sociodramatic and games-with-rules) and has objectives progressing from early play objectives (teaching children to play with materials appropriately), to early social objectives (initiating the play of a more advanced peer, sharing materials) to more advanced social objectives (assuming a role) for children who are more socially able.

The curriculum is designed to be implemented for thirty minutes daily, but it was felt by this investigator that it would be difficult to implement the entire curriculum in regular early childhood classes since it is very structured. Although DeKlyen & Odom (in press) suggested that more peer interactions were observed in play activities that were more structured, this investigator has observed that the early childhood teachers at Vital Grandin School are attempting to adopt a more non-structured child-centered early childhood philosophy to play. Thus, the intervention package in this study is comprised only of the structured sociodramatic activities with Direct Instruction of Social Skills (DISS) implemented for fifteen minutes a day which still allows the children to participate in non-structured play activities. The sociodramatic activities were chosen because these play activities are ecological variables that may affect the acquisition of social skills and they stimulate learning in many areas of development (Guralnick, 1982; Jenkins et al., in press). Peer-mediated training is a vital part of this program, so that teachers can be faded out of the intervention as soon as is possible. It was hoped that this would encourage the children with special needs to focus less on the teacher and more on the other children. The teachers of the target children in this study had stated that most of their interactions were directed to the adults in the room.

Research Questions

The main goals of this intervention study were to describe the social interactions of four children with moderate handicaps in mainstreamed Kindergarten classes and to examine the effectiveness of Direct Instruction of Social Skills (DISS) within sociodramatic play activities from the IPC to 1) increase a handicapped child's social integration (i.e. percent interaction with non-handicapped peers as measured by the Social

Interaction Scan S.I.S., see Appendix C) and 2) increase a handicapped child's functional and social use of language with peers (as measured by pre and post-intervention language samples). Subsumed under these main goals are the following research questions:

Social Interaction with Non-Handicapped Peers (I_n)

1a. How do the target children's rates of interaction with non-handicapped peers (%I_n) compare to the rate of the other children in their classrooms during the baseline phase?

1b. Does the attention-control child's (Child 2) rate of social interaction with non-handicapped peers (I_n) differ from the other three children during the baseline phase?

1c. What are the baseline rates of social interaction with non-handicapped peers for the top two, middle two, and bottom two children in each class?

1d. Are the baseline rates of social interaction with non-handicapped peers (%I_n) stable for each of the 4 target children?

1e. Do the target children's rates of interaction with non-handicapped peers (I_n) increase, decrease, or remain the same, while in the sociodramatic play groups (as measured by the use of the S.I.S. on videotapes of the play sessions)?

1f. What is the attention-control child's (Child 2) rate of social interaction with non-handicapped peers ($\%I_n$) while in the play group?

1g. What is the attention-control child's (Child 2) rate of social interaction with non-handicapped peers ($\%I_n$) while playing with sociodramatic materials?

1h. Does the rate of interaction with non-handicapped peers (I_n) change for each child in the sociodramatic play condition during the follow-up phase in their classroom?

1i. What is the attention-control child's (Child 2) rate of social interaction with non-handicapped peers during the follow-up phase?

Play and Social Objectives for the Sociodramatic Integrative Activities

2a. Did the target children in the sociodramatic play condition attain the Level 1 and/or Level 2 play and social objectives for the sociodramatic integrative activities as outlined in the IPC?

Direct Instruction of Social Skills

3a. Did the target children in the sociodramatic play condition meet the criteria for the D.I.S.S.?

Size of play group

4a. Is the size of the play group a variable in the target children's rates of social interaction with non-handicapped peers?

Generalization

5a. Do the target children's rate of social interaction with non-handicapped peers (I_n) increase, decrease or remain the same during weekly probes in the classroom during center time?

Social Interaction With Handicapped Peers (I^h)

6a. Do the target children interact with classmates who also have special needs?

Interaction with Teacher

7a. What are the target children's rate of interaction with their teachers?

Teacher Rating Scale

8a. How do the target children's teachers describe their rate of social interaction with non-handicapped children?

Language Samples

9a. As determined from language samples, does the mean length of utterance, type/token ratio, # of initiations to peers, # of initiations to adults, # of responses to peers and # of responses to adults change between the baseline and follow-up phases? (see Appendix D for behavioural definitions)

Social Validity

10a. Do the target children's teachers view the intervention as making a positive difference in the target children's lives?

CHAPTER FOUR

Procedure

Introduction

This study was designed to investigate the use of a portion of Odom et al.'s (1988) Integrated Preschool Curriculum (i.e. sociodramatic integrative activities and Direct Instruction of Social Skills) to increase the social integration of children with moderate disabilities in mainstreamed Kindergarten classes.

A multiple baseline design across subjects (Kazdin, 1982) was used to replicate the effects of sociodramatic play across three children. A fourth child was in an attention-control situation (Ladd, 1981).

Participants

Four ambulatory male Early Childhood Services (E.C.S.) children with moderate handicapping conditions participated in this study at Vital Grandin School in St. Albert, Alberta, Canada. Each child was in a different Kindergarten class and, according to their teachers, interacted minimally with the other children in their classrooms. Ideally, a female would have been included, but during the time of the study there were no females with special needs who were considered to be socially isolated. Twelve highly social (as determined by their teachers) non-handicapped peers were also selected (three from each of the target children's classrooms). Four playgroups of four children each (1 child with handicaps (HC) and 3 non-handicapped children (NHC) from each target child's class) were formed. Three of the playgroups were assigned to a sociodramatic play condition while the other group (attention-control) was assigned to a child-directed play condition. These two conditions will be described in more detail under Intervention Procedure.

The children's ages fell within the school district's criteria for Kindergarten attendance (i.e. between the ages of 4 1/2 -5 1/2 as of September 1, 1988) except for two of the target children who were 1 year older, having already spent a year in Kindergarten. Parental consent for the children to participate in the study was obtained for all children (see Appendix E). Consent was voluntary and parents were free to withdraw their children at any time. A description of each of the four children with special needs (as of February 1, 1989) may be found in Table 1.

Insert Table 1 about here

Formal assessment of intelligence was only carried out on Child 2 since the other three were considered

Table 1

Description of the Target Children

Child	Description
1	male, 5 years 5 months myotonic dystrophy, moderate expressive language delay (difficult to understand due to motor impairment) youngest of 2 boys, 2 parents motor inco-ordination mild cognitive delay
2	male, 6 years, 0 months myotonic dystrophy, mild expressive and moderate receptive language delay, full scale I.Q. of 68 as determined by the WPPSI youngest of 5 children, 2 parents
3	male, 6 years, 10 months Down Syndrome, severe expressive and receptive language delay middle of 3 children, 2 parents moderate cognitive delay
4	male, 5 years, 7 months moderate expressive language delay, severe receptive language delay; seizure disorder, attention-deficit, moderate to severe cognitive delay a twin; an older sibling, 2 parents

difficult to test. Child 1 and Child 4 were receiving treatment once per week by the E.C.S. speech pathologist and occupational therapist since they were of Kindergarten age. Child 2 and 3, being 1 year older, received speech therapy only, at the local Health Unit.

Setting

The study was carried out at Vital Grandin School in St. Albert which houses all of the English and French Immersion Kindergarten classes (16 in total). Of the 10 English classes, five were termed "Clustered Kindergarten Classes" designed to meet the needs of children with and without handicaps in the same educational setting. The enrollment in the Clustered Kindergarten classes was reduced to sixteen or seventeen children (one to four of whom had special needs depending on the severity of the handicaps). The target children in this study were considered to be the most handicapped in each of their classrooms. The other children with special needs in each target child's class were mildly handicapped. Besides the early childhood teacher, each clustered class had a teacher assistant to assist with the children who had special needs.

Each of the target children's Kindergarten classes were physically fairly large (10 m by 8 m) and had several centers such as the block play area, computer area, sand/water play area, paint area, playhouse, listening center, etc. set up around the room. Although the types of toys that were available were fairly similar from room to room, there were differences in teacher style, amount of time spent in structured activities and amount of time spent in child directed play activities. Each teacher started the day with a circle time where children discussed the weather, the theme for the week, had "sharing" time or Show and Tell. Usually this would be followed by a "center time" where children were free to choose the activities they were most interested in. Around holidays (such as St. Patrick's Day and Easter) activities tended to be more structured since teachers requested children to complete holiday crafts. Library time, gym time, swimming lessons, cooking, skating and field trips were other activities that the children participated in.

There were two play group settings. The three groups of children assigned to the sociodramatic play condition engaged in structured sociodramatic play in the investigator's office which was down the hall from all four Kindergarten classes. The office was temporarily converted into a playroom. On the walls would be placed pictures relating to the weekly activity (eg. trees, birds and butterflies for "Camping"; a couch, sink, fridge, window for "Eating and Cooking"). Sociodramatic play props would be placed around the room (eg. tent, tissue paper campfire, flashlight, binoculars, butterfly nets, sleeping bag, cooking utensils and backpacks) to stimulate the children's play. As well, four small pieces of carpet were placed against one wall where the children would sit when they first arrived to the room for the investigator's "introduction" to the activity or lesson from the D.I.S.S. scripts. A video camera was set up in one corner of the room. Since this room was very small (11 feet by 11 feet), the investigator was required to manipulate the videocamera to keep the target children in view (although it always remained in the same corner). The investigator's desk remained in the room where she would "work" at times during the play sessions when fading out adult assistance.

The group participating in the attention-control condition went to a different play room at the other end of the school from their classroom. This room was already designated a playroom and was usually used by the preschool class in the school. This room was larger (20 feet by 12 feet) which provided more room for the children to play in. In this room were activities and toys typically found in a Kindergarten class (games such as Treasure Island, Save the Princess and Jumbolino, puzzles, a Seasame Street Cookie Counter, lacing cards, playdough, paper and felt pens, and construction toys such as Lunar Park). Two playrooms were required because there was insufficient time between playgroups to change the toys in the room. Although the latter playroom, being larger, would have been better for sociodramatic play, it was considered to be too far away for the children to walk to, since three playgroups were conducted during the afternoon. The videocamera was transported from one playroom to the other.

Design

A multiple baseline design across subjects was used (Kazdin, 1982). This design is a variant of single-subject research designs. In this design, the effects of intervention are demonstrated by introducing the intervention to different baselines (e.g. behaviours, persons, settings) at different points in time. If each baseline changes when and only when the intervention is introduced, the effects can be attributed to the intervention rather than to extraneous events. Thus, within multiple baseline designs, there is no need to return behaviour to near baseline levels following intervention.

In this study, the effects of sociodramatic play with Direct Instruction of Social Skills (independent variable), were tested on the three children with special needs, while a fourth child with special needs was assigned to an attention-control condition (Ladd, 1981). Since the onset of intervention was staggered across the children, the children were randomly assigned to the order in which they would obtain the intervention. The child who was placed in the attention- control condition was also randomly assigned.

Single-subject designs require repeated measures of the dependent variable (Kazdin, 1982). In this study, the major dependent variable was social interaction with non-handicapped peers (I_n). To measure the rate of I_n, the Social Interaction Scan (S.I.S., from the Integrated Preschool Curriculum, Odom et al., 1988) (see Appendix C) was employed. The S.I.S. will be discussed in greater detail under Data Collection Measures.

There were three phases in this investigation: 1) baseline phase, 2) intervention phase and 3) follow-up phase.

Baseline Phase

During the baseline phase, data was collected, using the Social Interaction Scan, for all four children in their classrooms. The S.I.S. was used to record every child's play behaviour in each target child's class. Observations of baseline performances of teacher interaction, interactive play, negative interactive play, proximity play and isolate/unoccupied play were made. The observer was in each class for approximately fifteen minutes at a time. Data was collected during center time for 4 consecutive days during the first week. No data was collected during the second week because a snow storm kept all Kindergarten children at home. Then, data was collected whenever it was feasible as determined by each class' schedule. Since skating occurred for each class on Fridays, school staff meetings occurred on two Wednesdays/month and several field trips were organized, there was variability in how often the observer could go into each classroom.

There were time constraints involved regarding the length of the baseline phase as the study needed to be concluded by the end of the school year. This investigator would not have proceeded with the intervention phase though, if the target children's rates of social interaction with non-handicapped peers (I_n) were not stable. Rates of I_n were considered stable if there was not much variability in the daily percentages of I for each child.

During the baseline phase, language samples for each of the four children were collected by a speech pathologist. As well, every target child's teacher completed the Teacher Rating Scale (Odom et al., 1988). These will be discussed in more detail under Data Collection Measures.

Intervention Phase

The independent variable in this study was sociodramatic play with Direct Instruction of Social Skills. The intervention phase consisted of a 15 minute intervention 2-4 times per week for 6 or 7 weeks. Intervention was carried out in two separate rooms since carrying it out in class would have been difficult with a dozen other children perhaps wanting to join the activities. The three children in the sociodramatic play condition went to 1 room and the children in the attention-control condition went to the other.

Sociodramatic play condition. The sociodramatic play condition consisted of six-seven (one child was away for one week) sociodramatic integrative activities from the Integrated Preschool Curriculum (Odom et al., 1988) (see Appendix A for an example).

Direct Instruction of Social Skills (see Appendix B) also from the IPC, were carried out within these activities. Each target child's playgroup consisted of four children but it was not always possible for the three non-handicapped children to come with the target child. Some of the D.I.S.S. skills were better practiced with only one other child present.

The sociodramatic play groups were brought, one group at a time, to the play area two to four times a week, for 6 or 7 weeks (child 3 was sick for one week). There, the investigator trained responding (peer-mediated) and initiation (teacher-directed) strategies from the D.I.S.S. within one of seven sociodramatic integrative activities from the IPC (see Appendixes A & B). There was no particular order to when the sociodramatic integrative activities were introduced. If "Dress-Up" was set-up in the playroom, Child 1 may have been in the third week of intervention, Child 3 in the second week of intervention and Child 4 in the first week of intervention.

In the responding section of the D.I.S.S., the non-handicapped peers were taught to talk and share with the target children. The target children, in turn, were taught to respond to their peers' initiations. The initiation section of the D.I.S.S. focussed on the target children. They were taught to say "Can I play too?" to enter into a play activity. That sufficed in situations when the peer said "yes", but they were then taught to repeat the question if they received no response from the peer. When the children were brought to the sociodramatic playroom the first 5 minutes or so were spent with D.I.S.S. as an introduction to a 10 minute playtime (eg., 5 minutes of D.I.S.S. preceded 10 minutes of "Camping" play.) As outlined on each sociodramatic integrative activity, the intervener a) suggested play ideas, b) modelled appropriate play, and c) prompted social interaction among the children when necessary. The intervener reduced prompting as soon as the children became well-versed in the activities. Thus, both peer-initiated and adult-mediated strategies for promoting social interactions were employed. The target children were required to meet the criteria as outlined in the DISS as they progressed through the intervention.

Attention-control condition. In order to increase the internal validity of the study, Child 2 was placed in an attention-control condition. An attention-control condition is one where the child receives an equal amount of contact with the investigator as well as receiving play opportunities with peers but without receiving the intervention that the other children are receiving (Croft, 1983). As Oden and Asher (1977) stated: "Previous research indicated that pairing isolated children with more liked peers in play activities may itself increase the isolated children's social interaction and peer acceptance" (p.487). This would also help to rule out some of the threats to internal validity such as history, maturation, and testing. This will be further discussed under Internal Validity.

The attention-control group was also taken out of the classroom to a play area for 6 weeks but the children were free to choose their own play activities (Child 2 was away 1 week prior to Spring Break). Toys that were novel to the children (puzzles, construction toys, crafts, etc.) were made available. The intervener was not involved in prompting social interaction in this condition but would often choose an activity herself to play with, and carried on casual conversation with the children while they were playing.

During the intervention phase, the S.I.S. was used to record the children's social behaviour within the sociodramatic and attention-control playgroups from videotapes that were recorded.

Generalization

To measure generalization during the intervention phase, the S.I.S. was used to record all four children's social behaviour approximately once per week during center time in class.

Follow-Up Phase

Following 6-7 weeks of intervention, data on each child's social behaviour (using the S.I.S.), was taken during center time in the classrooms. The observer was in the classroom for approximately 15 minutes. Four or five days of follow-up data were recorded to further measure any effects of the intervention on each child's social interaction with non-handicapped peers in their classrooms.

A set schedule of follow-up days was not possible. With parent-teacher interviews, field trips, child absences and so on, the observer was only able to observe when it proved to be convenient for the teachers.

Data Collection Measures

The Social Interaction Scan (S.I.S., Odom et al., 1988)

The major measure of the dependent variable (social interaction with non-handicapped peers) was the Social Interaction Scan (see Appendix C). This instrument is an instantaneous probe system which was used on each target child's entire class so that measures of social interaction for all children were made. Although the S.I.S. has been used previously in several research studies (deKlyen & Odom, in press; Jenkins et al., in press; Odom et al., 1982) no reliability or validity information was published in the Integrated Preschool Curriculum (Odom et al., 1988). Observations were made in five behaviour categories (isolate/unoccupied, proximity, interactive, negative interactive, and interaction with teacher). For detailed descriptions of each category see Appendix F.

Using the S.I.S., every child in the four classrooms was observed for a 2 second interval, his/her behaviour recorded, then the next child on the list was found within 4 seconds and the observation probe was repeated. The observer did not record the order that the behaviours occurred for any particular child. An audiotape cued the observer on when to shift to another child. Each child in every class was observed 10 times per observation period. This instrument was used during the baseline phase (3-4 times/week), once per week during the intervention phase to record the children's social behaviour during center time in class (measuring generalization), and during the play groups as measured from videotapes during the intervention phase. For the recording of behaviours from the videotapes, the observer used the same class lists so as to have the same pacing between the children in the play groups. Thus, if the first child on the list was not in the playgroup (i.e. not in the video) a slash was placed beside his/her name when the cue occurred. Then the observer went to the next child on the list who received another slash if he/she was not in the playgroup. Only for the playgroup children were behaviours recorded. Percent social behaviours were recorded in each of the following categories: child interacting with teacher (T^c), teacher interacting with child (T_t), child interacting with handicapped peer (I^h) and child interacting with non-handicapped peer (I_n), negative interactive play with handicapped peer (N^h), with non-handicapped peer (N_n), proximity play (P), and isolate/unoccupied play (I/U). The children in each class were rank-ordered according to %I_n and class averages of all the social behaviours were calculated.

D.I.S.S. Scripts

During the sociodramatic play sessions, data was also collected regarding whether or not the target children met the responding and initiating criteria for the D.I.S.S. scripts. It was noted whether the children mastered the skill (yes), required prompts (with prompts) or whether the skill was not taught (not taught).

Play and Social Objectives for the Sociodramatic Play Conditions

Each sociodramatic integrative activity has play and social objectives outlined for the children. For the target children in the sociodramatic play condition, the observer recorded whether the objectives were met without prompts (X), with prompts (WP), not met (-), or did not apply (N/A).

Language Samples

A 30 minute language sample for each target child was obtained two weeks prior to the baseline phase. The following were measured for each child; 1) mean length of utterance, 2) type/token ratio, 3) # of initiations to peers, 4) # of responses to peers, 5) # of initiations to adults and 6) # of responses to adults (see Appendix D for behavioural definitions of each). Follow-up language samples were obtained during the week following the intervention for Child 1 and Child 2, during the last week of intervention for Child 3,and the second to last week of intervention for Child 4. The reason for the discrepancy is due to the fact that the speech language pathologist who initially took the language samples had left the school but was able to return for one day only to take post-intervention samples.

Teacher Rating Scale (T.R.S., Odom et al., 1988)

The Teacher Rating Scale was used by the teachers to determine positive and negative rates of behaviour for the children. The teachers rated each child's behaviour along a five-point continuum in response to four positive and four negative statements. A total score was derived by subtracting the total score of the negative dimension from the total score for the positive dimension. Negative total scores are an indicator of possible problem social behaviours (Odom et al., 1982) (see Appendix G). Teachers were asked to fill out the rating scale on each target child before intervention and during follow-up.

Interviews With Teachers

Since social validity, referring to judgements of the social importance of the intervention, has recently been seen to be an important measure of a treatment's success (Odom & McEvoy, 1988), the children's teachers and teacher assistants were interviewed (See Appendix H for a copy of the questions posed).

Reliability

To establish the reliability for the major measure of the dependent variable, the S.I.S., a second observer also recorded behaviour during 10% of the observation times. The second observer observed approximately once per week depending on when her schedule allowed her to do so. Initially she was to observe all the classes randomly but she was unable to learn all the children's names so observations were only conducted for Child 1's class and videotapes (throughout the phases of the study). Inter-rater reliability was calculated by dividing the number of agreements of the occurrence of a behaviour by the total number of behaviours recorded x 100.

The inter observer agreement calculated for this study was 91%.

Data Analysis

If the target behaviour has been adequately assessed and the intervention was carried out in an appropriate experimental design, the one important matter that remains, is the analysis of the data that are obtained (Kazdin, 1982). According to Kazdin, data from single-case experiments are evaluated according to experimental criteria (judgements about whether behaviour change has occurred and whether the change can be attributed to the intervention) and therapeutic criteria (referring to whether the effects of the intervention are important or of clinical or applied significance). Kazdin (1982) stated that:

> In single case experiments, visual inspection

> is usually used to evaluate whether the experimental criterion has been met. Data from the experiment are graphed and judgements are made about whether change has occurred and whether the data pattern meets the requirements of the design." (p.260)

Statistical analysis have also been suggested as a way of addressing the experimental criterion of single-case research to supplement visual inspection (Kazdin, 1982). However, two sources of controversy have been voiced--a) whether they should be used at all, and b) if used, which statistical tests are appropriate. Statistical tests seem to be especially useful when several of the desired characteristics of the data required for visual inspection are not met.

Kratochwill and Williams (1988) stated that considering the issues of data analysis "there continues to be great debate over whether or not visual or statistical criteria might be invoked to analyze the data" (p.153). For this study, the visual inspection of graphed data was used for judging the meaningfulness of the data and for drawing conclusions from the research (see Results). Criterion for judging success of the intervention technique was for the target children's social interactions with non-handicapped peers to increase as the intervention was introduced for each child. Pre and Post Language samples were interpreted by a speech pathologist.

The pre-and-post Teacher Rating Scales for each child were compared and informal interviews with teachers were used to assess the social validity of the sociodramatic play intervention technique.

Internal Validity

According to Smith and Glass (1987) the term "internal validity" refers to "the extent to which one could claim that the independent variable was responsible for or caused the dependent variable" (p.127). In this study the concern was to what extent sociodramatic play with Direct Instruction of Social Skills affected the social integration of children with special needs. "The term "threats to internal validity" stands for rival hypotheses or alternate explanations to the researcher's hypothesis that changes in the independent variable were the cause of changes in the dependent variable" (Smith and Glass, 1987, p. 127).

Kratochwill and Williams (1988) stated that "single-case research designs can rule out major threats to internal validity through replication of the experimental effects" (p. 147). Multiple baseline designs attempt to accomplish this. Still, there are threats such as history, maturation, testing, instrumentation, statistical regression, selection bias, attrition and diffusion of treatment (Kazdin, 1982).

Since this study was conducted in a naturalistic setting, establishing effective controls to maximize internal validity was a concern. Each threat to internal validity and how the threats were dealt with, will be discussed.

History

History could have been a threat to the internal validity of the study if administration of the intervention coincided with special events in the child's life. Although certainly some minor incidents would have occurred in the lives of each child in the study, this investigator is unaware of any historical events that could have influenced the results or accounted for the pattern of data otherwise attributed to the intervention. Since three children were in the sociodramatic play condition, their results could be compared with each other, as well as to the results obtained for the child in the attention control situation. These comparisons would help to rule out historical events as a possible threat.

Maturation

Maturation, referring to change over time that may result from processes within the child (Kazdin, 1982) such as the natural development of friendships, could have been a threat. Again, having three children in the sociodramatic play condition and one in an attention-control situation could help rule out maturation as a threat since maturation would have played a role for all four children. Intervention was introduced only when baselines were stable.

Testing

Testing (any changes that may be attributed to the effects of repeated testing) could also have been a threat to internal validity if it was felt that the children might have performed differently because of the investigator's presence, using the S.I.S. repeatedly. However, since the observations by the S.I.S. were carried out on all children in the classes and on about twenty-five different occasions in each class, it was felt by this investigator that no children suspected that they were being "singled-out" for observations. Similarly, the children (except on a couple of occasions) seemed oblivious to the videocamera. The presence of an attention-control situation was also an attempt to control for the testing threat.

It was felt that possible test confounding related to the Teacher Rating Scale was minimal since the children were not aware that their teachers were completing them.

Instrumentation

Instrumentation, referring to any changes that take place in the measuring instrument or assessment procedure over time (Kazdin, 1982), might have been a factor. To counteract any observer bias, however, there were regular inter-observer reliability checks (approximately weekly throughout the phases of the study). This concern was reduced with high inter-observer agreement.

Statistical Regression

Statistical regression was not a factor in this study since large samples and statistics to analyze the data were not used.

Attrition

Attrition refers to a change in overall scores between groups or in a given group over time that may be attributed to the loss of some of the subjects. There was no attrition in this study. However, child 2 and child 3 were both absent for 1 week (at different times).

Selection Bias

Since the children were not randomly selected or assigned to this study, selection bias was a concern. In Table 1 can be found a description of the children to aid in determining what type of child might be included in this study.

Diffusion of Treatment

Diffusion of treatment was not considered to be a threat in this study as the four target children were from four different classes. Child 2, in the attention-control condition, in no way was exposed to the sociodramatic play condition except at the end of the intervention phase.

While statistical regression was not a factor in this study, rates of social interaction could have reverted to the mean due to such factors as a waring off of interest in the activities and the waring off of initial excitement.

To summarize, threats to interval validity due to history, maturation, instrumentation, attrition and diffusion of treatment were considered by this investigator to be minimal. Testing, selection bias, the variability of the results (especially in the intervention phase) was more of a concern. These will be discussed in more detail the Results and Discussion chapters.

External Validity

While the purpose of experimentation is to demonstrate relationships between independent and dependent variables (Kazdin, 1982), it is not the only task. As well, It is important to demonstrate general relationships extending beyond the circumstances of an investigation. According to Kazdin (1982) "external validity addresses the broader question and refers to the extent to which the results of an experiment can be generalized or extended beyond the condition of the experiment" (p.81). Characteristics of an experiment that limit the generality of the results are known as threats to external validity. These include generality across subjects, settings, response measures, times and behaviour change agents, reactive experimental arrangements, assessment, pre-test sensitization and multiple-treatment interference.

According to Odom and Karnes (1988), single-subject researchers attempt to build external validity for their results by 1) replicating results across several subjects, b) providing detailed descriptions of each subject allowing the reader to understand for whom the interventions may or may not be intended, c) describing the intervention in great detail in order to allow replication and d) carefully documenting and measuring the implementation of the independent variable.

To build external validity for this investigation the following threats were taken into consideration.

Generality Across Subjects and Setting

In order to provide the reader with an understanding of the type of child who might benefit from this investigation, the four children were described in Table 1. The settings were also described in detail.

Description of the Independent Variable

In this chapter are detailed descriptions of the sociodramatic and child-directed play condition. As well, the implementation of these interventions is described. Outlines of the sociodramatic integrative activities and scripts for the D.I.S.S. can be found in Appendixes A & B.

Reactive Experimental Arrangements (Hawthorne Effect, Smith and Glass, 1987)

It was possible that the children's behaviour would be influenced simply by being in this investigation. The inclusion of an attention-control child helped to minimize this threat.

Reactivity of Assessments

Since all the children in a class were observed and the investigator was a frequent visitor to the class before this study was carried out, it was felt that the children would not be aware that they were being assessed. If they did question the use of a small tape recorder and earplug, the novelty would have worn off quickly since the investigator observed throughout a period of three months. It is felt that this would also hold true for pre-test and post-test sensitization.

Measurement of the Dependent Variable

This threat to the generalization of the results was decreased by the explicit description of the Social Interaction Scan in this chapter.

To summarize, several threats to the external validity of this investigation were counteracted by the detailed description of the subjects, settings, and independent and dependent variables. Observing every child in each class helped decrease the Hawthorne Effects and reactivity to assessments.

Social Validity

According to Kazdin (1982), social validation refers to "whether the focus of the intervention and the behaviour changes that have been achieved meet the demands of the social community of which the client is a part" (p.20). Odom (1988) stated that such judgements may be made by having the individuals who are ultimately the consumers of the intervention evaluate the program's social importance. In this investigation, social validity was evaluated by subjective evaluation (Kazdin, 1982). Teachers were asked to fill out a Teacher Rating Scale of social interaction (Odom et al., 1988) and were interviewed by this investigator to determine if they felt that the intervention made a socially important change in the child's life.

The following chapters will outline then discuss the results obtained from this investigation.

CHAPTER FIVE

Results

This study was designed to investigate the use of sociodramatic play activities with Direct Instruction of Social Skills to increase the social integration of three moderately disabled children in mainstreamed Kindergarten classes at Vital Grandin School in St. Albert, Alberta, Canada. The measuring instrument for the major dependent variable (social interaction with non-handicapped peers) was the Social Interaction Scan (S.I.S., Odom et al., 1988). The S.I.S. was used to observe the social and play behaviour of all the children in the four classes (see Appendix C). The observational system consists of five behavioural categories: Interactive, Teacher Interaction, Negative Interactive, Proximity and Isolate/Unoccupied. A Teacher Rating Scale, teacher interviews and language samples were also used to evaluate the intervention.

During this investigation, a number of questions were posed. Results are summarized in terms of responses to each of the questions.

Social Interaction with Non-Handicapped Peers (I_n)

1a. How do the target children's rates of interaction with non-handicapped peers ($\%I_n$) compare to the rate of the other children in their classrooms during the baseline phase?

The social behaviours during the baseline phase, of every child in each of the 4 classrooms can be found in Tables 2-5.

Insert Tables 2-5 about here

The symbols at the top of the tables represent the five behaviour categories (child interacting with teacher (T^c) or teacher interacting with child (T_t); child interacting with handicapped peer (I^h) or with non-handicapped peer (I_n); negative interaction with handicapped child (N^h) or with non-handicapped child (N_n); proximity play (P) and isolate or unoccupied play (I/U) as measured by the Social Interaction Scan). Every child in the class is represented by a letter (left-hand column), with (NHC) representing the non-handicapped children in the target child's play group. HC represents children with handicaps in the class and (HC)* represents the target children. The children in each class are rank-ordered according to % I_n. As is clearly apparent during the baseline phase, each target child is ranked at the bottom of his class in terms of social interaction with non-handicapped peers.

The class averages of percent social interaction with non-handicapped peers (%I_n) for each of the four

Table 2

Rank Order % I_n: Child 1's Class (Baseline Phase)

Child	T^c	T_t	I^h	I_n	N^h	N_n	P	I/U
A	5	3	0	53	0	0	18	20
B(NHC)	0	2	2	32	0	0	38	26
C	0	12	0	32	0	0	32	25
D(NHC)	3	3	0	32	0	0	42	20
E	2	5	2	30	0	0	30	32
F	5	2	3	28	0	0	42	20
G	7	7	0	25	2	0	33	27
H(NHC)	2	7	5	25	2	0	30	30
I(HC)	6	22	8	22	0	0	28	14
J	7	8	2	18	0	0	30	35
K	0	0	2	18	0	0	43	37
L	3	7	3	17	0	2	30	38
M(HC)	8	26	0	16	2	0	26	22
N(HC)*	8	30	3	0	0	0	40	18
$\overline{X}$	4	10	2	25	0	0	33	26

Note. NHC = sociodramatic play group peers
HC = children with handicaps in the class

HC* = Target Child

Table 3

Rank Ordered %I_n: Child 2's Class (Baseline Phase)

Child	T^c	T_t	I^h	I_n	N^h	N_n	P	I/U
A	4	2	2	40	0	0	42	10
B (NHC)	8	4	2	40	0	0	28	18
C	4	2	0	38	0	0	32	24
D	2	4	0	32	0	0	54	8
E (NHC)	6	14	0	32	0	0	22	26
F	2	10	2	30	0	0	36	20
G	2	8	2	28	0	0	26	34
H	2	6	4	24	0	0	40	24
I	2	14	2	20	0	0	40	22
J	0	2	2	18	2	0	30	46
K (HC)	15	18	3	18	0	0	13	35
L	2	10	0	16	0	0	56	16
M	2	4	0	12	0	0	60	22
N(HC)	2	20	2	10	0	0	34	32
O(HC)*	2	36	0	2	0	0	10	50
$\overline{X}$	4	10	1	24	0	0	35	26
P(NHC)*	0	0	0	0	0	0	40	60

Note. (HC)* = Target Child
(NHC)*= Child was absent except for 1 observation period
(NHC) = Child-Directed play group peers

Table 4

Rank Ordered %I_n: Child 3's Class (Baseline Phase)

Child	T^c	T_t	I^h	I_n	N^h	N_n	P	I/U
A	0	4	0	50	0	0	41	5
B	1	1	1	50	0	0	23	24
C	3	1	5	48	0	0	31	13
D	1	4	0	44	0	0	38	14
E	3	4	0	44	0	1	35	14
F(NHC)	0	5	0	43	1	0	39	13
G	1	5	0	41	0	0	43	10
H(NHC)	3	3	0	36	0	0	39	20
I	3	8	1	35	0	0	31	23
J	5	4	1	34	0	3	34	20
K	3	8	1	34	0	1	44	10
L(NHC)	1	4	0	33	0	0	34	27
M	0	5	0	28	0	3	36	29
N	1	8	3	15	0	1	40	33
O	3	6	1	15	0	3	50	23
P	0	3	0	14	0	0	43	40
Q(HC)*	0	25	0	14	0	1	33	28
$\bar{X}$	2	6	1	34	0	1	37	20

Note. (HC)* = Target Child
(NHC) = Sociodramatic Playgroup Peers

Table 5

Rank Ordered %I_n: Child 4's Class (Baseline Phase)

Child	T^c	T_t	I^h	I_n	N^h	N_n	P	I/U
A(NHC)	5	4	1	37	0	0	30	23
B(NHC)	3	4	2	32	0	0	37	23
C	1	4	0	27	0	0	44	25
D	4	4	0	27	0	0	27	38
E(NHC)	2	3	0	26	0	0	45	23
F	4	3	0	24	0	0	46	24
G	7	12	1	18	0	0	33	30
H	7	16	0	15	0	0	44	19
I	3	6	2	14	0	0	34	42
J	5	28	1	13	0	3	25	25
K	3	5	1	12	0	0	48	32
L	1	10	1	12	0	1	37	39
M	3	3	1	7	0	0	48	39
N(HC)	10	18	1	7	0	0	26	38
O	0	5	1	7	0	0	53	36
P(HC)*	3	32	1	4	0	0	26	35
$\overline{X}$	4	10	1	18	0	0	38	30

Note. (HC)* =Target Child

(NHC) = Sociodramatic Playgroup Peers

classrooms can be found in Table 6.

Insert Table 6 about here

It can be seen that the mean class average for social interaction with non-handicapped peers is 25% with a standard deviation of 7.

A possible explanation for the discrepancy in class means may be that there are different types of activities available to the children in each class. For instance, in Child 3's classroom, there is a play area full of large wooden blocks where the children are often seen to be building together. In Child 1's classroom there is a wooden play structure with slide and tunnel. Children in Child 4's class are very often seated at craft tables, a listening center, or are painting, etc. These types of activities may be less conducive to interactive play.

Also indicated in Table 6 are the rates of social interaction with non-handicapped peers for each of the four children in the study. As can be seen from the table, there is much discrepancy between the target children rates of I_n and the mean rates of I_n for their classrooms. The greatest discrepancy between the child and classroom rate occurred for Child 1; the smallest,

Table 6

Mean Social Interaction with Non-Handicapped Peers

Class	Class Mean	Standard Deviation	Child	Mean	Standard Deviation
1	25%	12	1	0%	0
2	24%	12	2	2%	4
3	34%	13	3	14%	12
4	17%	10	4	4%	7
$\bar{X}$	25%	7		5%	6

for Child 4. The target children interacted, on the average, five times less than their classmates.

1b. Does the attention-control child's (Child 2) rate of social interaction with non-handicapped peers (I_n) differ from the other three children during the baseline phase?

Child 2's rate of social interaction with peers who are not handicapped was very similar to the other three children's during the baseline phase. His rate of I_n was 2% compared to the mean rate for the four children of 5%. He, like the other children could, be considered socially isolated in his Kindergarten classroom (see Table 6).

1c. What are the baseline rates for social interaction with non-handicapped peers for the top two, middle two and bottom two children in each class?

The baseline rates of social interaction with non-handicapped peers for the top two middle two and bottom two children in each class are listed on Table 7.

Insert Table 7 about here

The middle two children in each class fall close to their class mean and it can be observed that the target children are included in the "bottom" interactors.

1d. Are the baseline rates of social interaction with non-handicapped peers ($\%I_n$) stable for each of the four target children?

From visual inspection of Figure 1, it can be

Table 7

%I_n for Top 2, Middle 2, and Bottom 2 Children in the 4 Classes

Target Child's Class	Top 2	Middle 2	Bottom 2
Child 1	53%	25%	16%
(Class $\bar{X}$= 25%)	32%	25%	0%*
Child 2	40%	24%	10%
(Class $\bar{X}$= 24%	40%	20%	2%*
Child 3	50%	35%	14%
(Class $\bar{X}$= 34%)	50%	34%	14%*
Child 4	37%	15%	7%
(Class $\bar{X}$= 17%)	32%	14%	2%*

Note. *denotes target children

Insert Figure 1 about here

---

observed that all four children achieved a fairly stable baseline rate of $\%I_n$. Child 1 was never observed to interact with a non-handicapped child during the baseline phase (mean $\% I_n = 0$). Child 2 (attention-control) was seen to interact with non-handicapped classmates 2% of the time, on average, and Child 4, 4% of the time on the average. Child 3 interacted more than the other children and his daily rate of $\%I_n$ varied from 0 - 30% (with a mean of 14%). It should be noted that during the baseline phase the attention-control child's rate of $\% I_n$ did not differ to any extent from that of the other three children.

1e. Do the target children's rate of interaction with non-handicapped peers (I_n) increase, decrease, or remain the same, while in the sociodramatic play groups (as measured by the use of the S.I.S. on videotapes of the play sessions)?

Looking at Figure 1, it can be seen that the target children's rate of social interaction with non-handicapped children increased dramatically while in the sociodramatic play groups (as indicated by open circles--two children in the play group, and circles with crosses inside--four children in the play group). While in the sociodramatic play groups, Child 1's rate of I_n

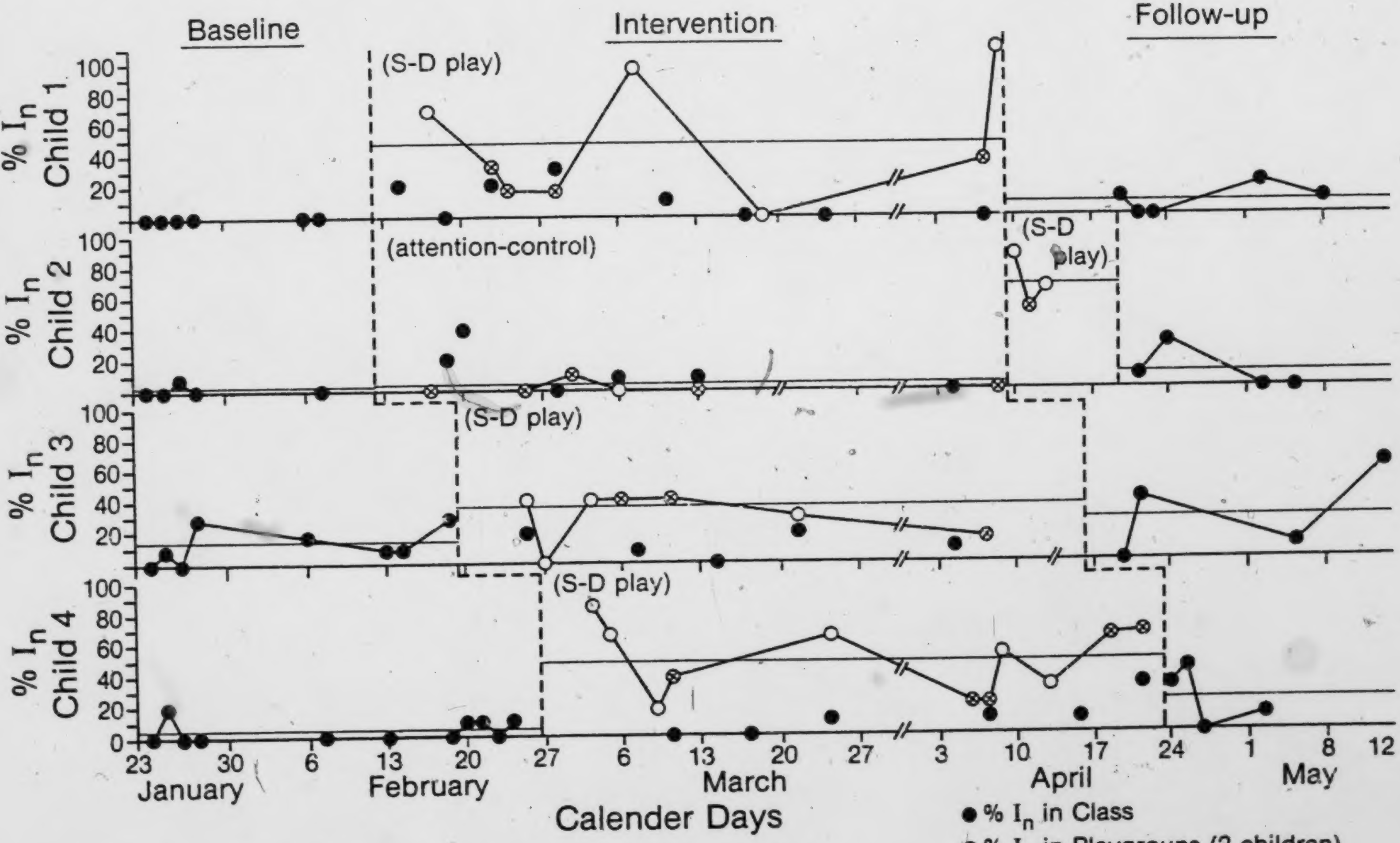

Figure 1. % Social interaction (I_n) during baseline, intervention and follow-up phases.

increased 46 times the baseline rate (0% during baseline to 46% in the play groups). Child 3's rate increased 2.5 times (14% I_n during baseline to 36% I_n during the play groups) and Child 4's rate increased 12 times (4% I_n during baseline to 47% I_n during the play groups) (see tables 8-10).

Insert Table 8-10 about here

While the rate of social interaction varied from day to day, on the average, sociodramatic play increased the rate of social interaction with non-handicapped peers for children 1, 3, and 4, six times the mean baseline level (mean of 6% I_n during baseline (see Table 6) to a mean of 37% I_n during the sociodramatic play groups).

1f. What is the attention-control child's (Child 2) rate of social interaction with non-handicapped peers (% I_n) while in the play group?

Instead of participating in sociodramatic play, this child participated in child-directed play with three non-handicapped peers. From visual inspection of Figure 1, it is apparent that social interaction for this child did not increase while in the child-directed play condition (3% I_n as compared to 2% during baseline) (see Table 11).

Table 8

Rank Ordered %I_n: Child 1's Sociodramatic Play Group

Child	T^c	T_t	I^h	I_n	N^h	N_n	P	I/U
B(NHC)	0	5	5	59	0	0	23	9
D(NHC)	5	0	5	59	0	0	23	9
N(HC)*	9	9	0	46	0	0	26	15
H(NHC)	9	0	30	20	0	0	26	15
$\overline{X}$	6	4	10	46	0	0	25	12

Table 9

Rank Ordered %I_n: Child 3's Sociodramatic Playgroup

Child	T^c	T_t	I^h	I_n	N^h	N_n	P	I/U
Q(HC)*	7	24	0	36	0	0	29	5
H(NHC)	4	4	4	33	0	0	54	0
F(NHC)	8	0	38	25	0	0	21	8
I(NHC)	7	0	40	20	0	0	27	7
$\overline{X}$	7	7	21	29	0	0	33	5

Note. (HC)* = Target child

(NHC) = Non-handicapped peer

Table 10

Rank Ordered %I_n : Child 4's Sociodramatic Playgroup

Child	T^c	T_t	I^h	I_n	N^h	N_n	P	I/U
P(HC)*	5	12	0	47	0	0	26	11
E(NHC)	3	3	13	40	0	0	40	0
A(NHC)	11	11	22	28	0	0	22	6
B(NHC)	8	4	52	6	0	0	23	6
$\overline{X}$	7	8	22	30	0	0	28	6

Note. (HC)* = Target child
(NHC) = Non-handicapped peers

Insert Table 11 about here

As the children entered the playroom, each selected an activity of his/her choice. While 2-3 of the children often chose to play a game together, Child 2 often chose an activity to play with alone. Upon occasion he would join in a board game but would interact with the investigator.

1g. What is the attention-control child's (Child 2) rate of social interaction with non-handicapped peers (% I_n) while playing with sociodramatic materials?

Once 5 weeks of child-directed play was completed (Child 2 was away for 1 week prior to Spring Break), Child 2 went to the sociodramatic playroom with his play group peers since this investigator wanted to observe the effects of sociodramatic material (without D.I.S.S.) on Child 2's rate of social interaction with peers. As is clearly apparent from Figure 1, Child 2's level of interaction with non-handicapped peers increased dramatically in the sociodramatic play room (67% I_n as compared to a baseline level of 2% I_n and a child-directed play intervention level of 3%) (see Table 12).

Table 11

Rank Ordered %I_n: Child 2's Child-Directed Playgroup

Child	T^c	T_t	I^h	I_n	N^h	N_n	P	I/U
E(NHC)	4	0	0	54	0	0	21	21
B(NHC)	8	4	0	42	0	0	25	21
P(NHC)	3	7	0	17	0	0	47	27
O(HC)*	17	23	0	3	0	0	40	17
$\overline{X}$	8	9	0	29	0	0	33	21

Note. (HC)* = Target child
(NHC) = Non-handicapped peers

Insert Table 12 about here

On the first day, immediately upon entering the room where a pretend kitchen was set up, Child 2 interacted and talked for the entire observational period with his peer. This appears to indicate that the nature of the play (sociodramatic versus child-selected play with puzzles, constructive toys, games, etc.) and the types of toys available (props for sociodramatic play versus functional and constructive toys) can affect the social interaction between handicapped and non-handicapped children.

1h. Does the rate of interaction with non-handicapped peers (I_n) change for each child in the sociodramatic play condition during the follow-up phase in their classroom?

Once intervention was completed for Child 1, he was still observed to interact somewhat with non-handicapped peers (8% I_n during follow-up as opposed to a baseline level of 0% I_n and an intervention phase level of 10% (see Table 13).

Insert Table 13 about here

Interestingly, Child 1 interacted with children in the classroom who were not in his sociodramatic play group.

Table 12

Rank Ordered %I_n: Child 2's Sociodramatic Playgroup[a]

Child	T^c	T_t	I^h	I_n	N^h	N_n	P	I/U
O(HC)*	6	6	0	67	0	0	22	0
P(NHC)	0	17	25	0	0	0	58	0
B(NHC)	17	50	0	0	0	0	33	0
E(NHC)	0	0	68	0	0	0	33	0
$\overline{X}$	6	18	23	17	0	0	37	0

Note. (HC)* = Target child
(NHC) = Non-handicapped peers
a = based on 3 play sessions only

Table 13

Rank Ordered %I_n: Child 1's Class (Follow-Up Phase)

Child	T^c	T_t	I^h	I_n	N^h	N_n	P	I/U
G	4	8	0	60	0	2	18	8
D(NHC)	0	0	0	60	0	0	26	14
A	0	2	2	58	0	0	28	10
E	0	2	0	52	0	0	34	12
H(NHC)	0	6	0	48	0	0	34	12
B(NHC)	0	4	0	38	0	0	30	28
K	2	2	0	38	0	0	28	30
F	3	4	5	35	0	0	27	26
I(HC)	10	17	13	18	0	0	22	20
J	7	7	0	17	0	0	17	52
L	0	0	3	17	0	0	50	30
N(HC)*	2	24	8	8	0	0	16	42
M(HC)	7	13	0	3	0	0	30	47
C	13	0	0	0	0	0	40	47
$\overline{X}$	3	6	2	30	0	0	29	27

Note. (HC)* = Target child
(NHC) = Sociodramatic playgroup peers

Child 3 has shown the most interaction at the beginning of the study during the baseline phase (mean = 14% I_n). During the follow-up phase his rate of interaction increased to 28% I_n) (see Table 14).

Insert Table 14 about here

On the fourth day of follow-up (May 11) Child 3 played very constructively and appropriately with one of the children who had been in his play group. These two children (with a 3rd child) were building with blocks for the entire observation period. Since they had already started playing together when this investigator went into the classroom, it is not known whether the target child joined in play with his peer or visa versa. This play session contributed to the high interaction rate seen during the follow-up phase for this child. Perhaps, the familiarity of the children, (developed during 5 weeks of playing together in sociodramatic play) might have contributed to the rate observed, but conclusions cannot be drawn from this one incident.

Child 4's rate of I_n during the follow-up phase was 20% (compared to a baseline level of 4% and Intervention Phase level of 12%). (see Table 15).

Table 14

Rank-Ordered %I_n: Child 3's Class (Follow-Up Phase)

Child	T^c	T_t	I^h	I_n	N^h	N_n	P	I/U
K	2	3	0	77	0	0	12	6
H(NHC)	5	3	10	54	0	0	18	10
B	0	0	10	50	0	5	17	18
A	0	3	0	47	0	0	43	7
J	0	10	0	47	0	0	33	18
N	3	3	0	43	0	0	33	18
I	5	3	0	42	0	0	27	23
E	0	3	0	42	0	0	30	25
G	2	3	0	40	0	0	47	8
L(NHC)	7	10	0	38	0	0	30	15
D	3	5	0	30	0	0	50	12
M	0	3	0	28	0	0	56	13
Q(HC)*	3	12	0	28	0	3	26	28
C	0	3	7	23	0	0	43	23
F(NHC)	0	3	0	20	0	0	70	7
O	0	8	0	15	0	0	44	33
P	0	10	0	8	13	0	22	47
$\bar{X}$	2	5	2	37	1	0	33	18

Note. (HC)* = Target child
(NHC) = Sociodramatic playgroup peers

Insert Table 15 about here

This child began to interact with the non-handicapped children in his class only at the end of the intervention phase. This trend appeared to continue during follow-up. He was observed on a couple of occasions to be interacting with the little girl who had been in his sociodramatic play group. It appeared that perhaps a longer intervention phase would have really benefitted this child.

1i. What is the attention-control child's (Child 2) rate of social interaction with non-handicapped peers during the follow-up phase?

During the follow-up phase, Child 2, on one occasion, was seen to interact 30% of the observation time (April 24). It is interesting to note that all the interactions occurred within the housekeeping center with another child. Thus, the type of play that he was engaged in within the class on this occasion, was sociodramatic play (see Table 16).

Insert Table 16 about here

It should be noted that children 1, 3 and 4 all moved up in rank, in terms of social interaction with non-handicapped peers, from the bottom position they

Table 15

Rank-Ordered %I_n: Child 4's Class (Follow-Up Phase)

Child	T^c	T_t	I^h	I_n	N^h	N_n	P	I/U
I	5	0	7	34	0	0	39	15
A(NHC)	5	5	7	32	0	0	34	17
F	0	5	0	20	0	0	65	10
B(NHC)	2	5	7	20	0	0	42	24
K(HC)	5	17	0	20	0	0	36	22
P(HC)*	12	27	2	20	0	0	29	10
H	3	6	0	19	0	0	29	23
E(NHC)	0	5	7	15	0	0	53	20
C	2	5	0	15	0	0	58	20
L	7	7	0	15	0	0	51	20
J(HC)	2	17	2	15	0	0	37	27
D	10	7	0	7	0	0	64	12
K	0	2	2	5	2	0	76	13
G	0	12	0	5	0	0	44	39
M	2	2	0	2	0	0	78	16
O	12	0	0	2	0	0	59	27
$\overline{X}$	4	7	2	15	0	0	50	20

Note. (HC)* = Target child
(NHC) = Sociodramatic playgroup peers
(HC) = Other children with handicaps

Table 16

Rank-Ordered %I_n: Child 2's Class (Follow-Up Phase)

Child	T^c	T_t	I^h	I_n	N^h	N_n	P	I/U
B(NHC)	12	5	0	53	0	0	17	13
A	5	7	0	45	0	0	40	3
D	0	17	3	33	0	0	37	10
M	0	2	0	30	0	0	43	25
C	10	8	0	27	0	0	55	0
I	5	8	0	25	0	0	37	25
F	0	8	0	25	2	0	32	33
K(HC)	0	33	0	24	0	0	30	13
G	10	2	0	20	0	0	56	12
P(NHC)	0	12	3	17	0	0	53	15
A	7	17	0	17	0	0	56	3
E(NHC)	7	0	0	15	0	0	58	20
L	2	20	0	13	0	0	57	8
N(HC)	5	12	0	12	0	0	56	15
J	3	2	10	10	0	0	47	28
O(HC)*	7	33	0	10	0	0	22	28
$\overline{X}$	5	10	2	24	0	0	44	16

Note. (HC)* = Target child
(HC) = Other children with handicaps
(NHC) = Child-directed playgroup peers

held during baseline. Child 2 (attention-control) remained at the bottom.

To summarize, the target children at Vital Grandin School interacted with their non-handicapped peers minimally during the baseline phase. In fact, these children, ranked at the bottom of their classes in terms of interaction with children who were not handicapped, could be considered socially isolated. The 3 children in the sociodramatic play condition increased their social interactions on average by six times, while in the play-groups. The attention-control child remained isolated in his play-group until he was introduced to the sociodramatic playroom.

Play and Social Objectives for the Sociodramatic Integrative Activities

2a. Did the target children in the sociodramatic play condition attain the Level 1 and/or Level 2 play and social objectives for the sociodramatic integrative activities as outlined in the IPC?

As Odom et al., (1988) pointed out, play objectives must be met before social objectives can be expected to be attained.

For each sociodramatic activity there were 2 levels of play. At the top of Level 1 integrative activities, were outlined child play and social objectives. For Level 2 integrative activities, only social objectives were listed. Suggestions for teachers for introducing the activities, for prompting the children, etc. were also included (see Appendix A for a copy of the Dress-Up sociodramatic activity used in this investigation).

As can be seen in Table 17, the three children in

Insert Table 17 about here

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the sociodramatic play condition mastered level 1 play objectives except that Child 1 and Child 4 had difficulty assuming the customer role during "Grocery Store" and Child 4 required prompts for "Eating and Cooking".

In terms of the Level 1 social objectives, all three children were observed to imitate the play of their peers. In fact, Child 1 was seen to watch the other children intently, then immediately copy what they were doing Sharing/trading materials required prompts by the investigator and no child was seen to assist a peer in dressing during "Dress-up. Overall, Child 1 met 92% of the Level 1 play objectives and 70% of the Level 1 social objectives. Child 3 met 100% of the Level 1 play objectives and 70% of the social objectives. Child 4 mastered 82% of the play objectives and 62% of the social objectives.

Table 17

Level 1 Play and Social Objectives Met for Target Children in the Sociodramatic Integrative Activities

Activity	Child Objectives	Objectives Met Child 1	Child 3	Child 4
Dress-Up	-plays independently for 5 minutes (p)	X	X	X
	-puts on clothes (p)	X	X	X
	-imitates play of another child (s)	X	X	X
	-helps another child dress(s)	-	-	-
Hamburger Stand	-plays appropriately with materials (p)	X	X	N/A
	-plays independently for 5 minutes (p)	X	X	N/A
	-imitates play of a peer (s)	X	X	N/A
	-passes objects to a peer(s)	X	X	N/A
Camping	-uses play materials in a sociodramatic way (p)	X	X	X
	-imitates appropriate children's actions (s)	X	X	X
Doctor	-pretends to us doctor's equipment (p)	X	X	X
	-plays independently for 5 minutes (p)	X	X	X
Grocery Store	-plays independently for 5 minutes (p)	X	X	X
	-assumes customer role (p)	WP	X	WP
	-imitates play of others(s)	X	X	X
Birthday Party	-pretends to cook and eat food (p)	X	X	X
	-plays independently for 5 minutes (p)	X	X	X
	-imitates play of a peer (s)	X	X	X
	-shares/trades materials (s)	WP	WP	WP

Table 17 (con't)

Level 1 Play and Social Objectives Met for Target Children in the Sociodramatic Integrative Activities

Activity	Child Objectives	Objectives Met Child 1	Child 3	Child 4
Eating and Cooking	-uses play materials appropriately (p)	X	X	X
	-plays in the activity for 5 minutes (p)	X	X	-
	-imitates the play of a peer (s)	X	X	X
	-shares/trades materials (s)	WP	WP	WP
	Total	83%	86%	74%

Note. (p) = play objectives
(s) = social objectives
X = skill mastered; - = skill not observed; WP = with prompts; N/A = not applicable.

Only Child 3 demonstrated some of the level 2 social objectives, (20%), being able to take on roles such as worker and buyer during "Hamburger Stand", patient or doctor during "Doctor" and customer or salesperson during "Grocery Store" (see Table 18).

Insert Table 18 about here

Although Child 1's cognitive ability was higher than the other children's, he was not observed to suggest play ideas or to take on roles without prompts. Child 4 did upon occasion suggest a play idea but it may have been an echolalic response to something he heard earlier.

To summarize, the three children in the sociodramatic play condition attained most of the Level 1 play objectives and some of the Level 1 social objectives (especially imitation). Only Child 3 met any of the Level 2 social objectives (20%).

Direct Instruction of Social Skills

3a. Did the target children in the sociodramatic play condition meet the criteria for the D.I.S.S.?

Research on social skill interventions with young children who are handicapped indicated that both learning to respond and learning to initiate to peers is required for the program to be successful (Odom et al., 1988). The D.I.S.S. scripts in the Integrated Preschool

Table 18

Level 2 Social Objectives Met for Target Children in the Sociodramatic Integrative Activities

Activity	Child Objectives	Objectives Met		
		Child 1	Child 3	Child 4
Dress-Up	-assists another child(s)	-	-	-
	-suggests ideas to another child(s)	-	-	-
	-takes on a role(s)	-	-	-
Hamburger Stand	-suggests play ideas to peers verbally (s)	-	-	N/A
	-shares materials with a peer (s)	-	X	N/A
	-assumes roles of worker and buyer (s)	WP	X	N/A
Camping	-suggests ideas to a friend (s)	-	-	-X
	-shares materials (s)	-	WP	WP
	-assumes camper's role (s)	-	WP	WP
Doctor	-shares/trades materials (s)	WP	WP	WP
	-tells ideas to peers (s)	-	-	-X
	-takes role of doctor or patient (s)	WP	X	WP
Grocery Store	-shares/trades materials (s)	WP	WP	WP
	-suggests play ideas (s)	-	-	-
	-assumes role of customer or salesperson (s)	WP	X	WP
Birthday Party	-suggests play ideas to peers (s)	-	-	-X
	-shares/trades materials (s)	WP	WP	WP
Eating and Cooking	-shares/trades materials (s)	WP	WP	WP
	-tells ideas to a peer (s)	-	-	-
	-takes parent role (s)	with doll	-	-
	Total	0%	20%	0%

Note. X = skill mastered; - = skill not observed; -X = skill emerging; WP = with prompts; N/A = not applicable; (s) = social objective.

Curriculum provide an instructional model for teachers to rise (see Appendix B for examples of each). There are three formats for the initiating component (non-verbal, verbal and play organizer). The verbal formats were used with the three children in the sociodramatic play condition.

The responding and initiating skills acquired by each child are summarized in Table 19.

Insert Table 19 about here

Child 1 progressed rapidly with the D.I.S.S. and met criteria for all skills taught during the intervention phase. It should be noted that criteria needed to be met for previous skills before new ones could be taught. Child 3 mastered the "Can I play too?" strategy when the investigator first asked him what he would say to his friends (criteria IIa) but did not progress to the level where he could initiate without prompts (IIb). Child 4 still required prompts to ask "Can I play too?" at the conclusion of the intervention. Thus, for Child 3 and Child 4, examples where peers pretend not to hear their initiation (no-response examples) were not taught.

Child 1 observed very intently while his NHC peers

Table 19

Criteria Met for Each Target Child During D.I.S.S.[a]

	Performance Objectives Met		
	Child 1	Child 3	Child 4
I. Responding Criteria			
a) Peers (NHC) correctly identified 'talking' and 'sharing' as 2 ways to be a good player	yes	yes	yes
b) When teacher and 1 NHC demonstrated positive and negative examples of talking and sharing, NHC identified being a good player on 5/6 consecutive turns	yes	yes	yes
c) Each NHC talked and shared 10 times with target child	yes	yes	yes
II. Initiation Criteria - Verbal			
1. Yes-No Examples			
a) Target child responded correctly to "________, when you ask your friends to play, what do you say?"	yes	yes	with prompts
b) Target child initiated correctly 3 consecutive times after: "(Target), now it's your turn. What are you going to say when you ask your friend to play? O.K. now go ask a friend to play."	yes	yes	with prompts
c) Target child initiated correctly 3 consecutive times when the teacher did not ask the children what they would say before entering the group.	yes	with prompts	with prompts
2. No-Response Examples			
a) Target child responded to 2 no-response and 1 affirmative (yes-response) example consecutively.	yes	not taught	not taught
3. Negative Response Examples	not taught	not taught	not taught

a. see Appendix D for D.I.S.S. Scripts

demonstrated the initiating strategies and was seen to imitate them readily with a little encouragement. Although, Child 1 was never observed to interact with non-handicapped children during baseline, he appeared to be very motivated to learn initiating strategies from the D.I.S.S. so that he could then go and play with his play group peers (play sessions always started with an initiating strategy). At this point, it became clear to this investigator that Child 1 really did want to play with other children but that for various reasons, perhaps programmatic factors (such as size of class, number of children, types of play) lack of motivation, or not feeling capable, etc., he was not seen to interact previously.

Child 1 not only mastered initiating play by saying "Can I play too?" but also learned to be persistent and to speak louder if a peer did not respond.

Child 3's cognitive ability was lower than Child 1's. He learned to ask "Play too?" quite quickly when asked by this investigator "What are you going to say when you ask your friend to play?" However, he was never observed to initiate without prompts. Perhaps a longer intervention period would have assisted Child 3 in further mastering initiation strategies.

Child 4 possessed the most expressive language, easily speaking in sentences. However, his understanding of language was limited. Although he would say "Can I play too?" without difficulty, he often would not direct this initiation to a peer but would just voice this as an echololic response to the investigator's prompts. Throughout the intervention he required assistance in directing initiation to peers.

There was thus a differential level of mastery of the D.I.S.S. scripts in this investigation. It appeared that cognitive ability may play a role in how far and how quickly initiation strategies are acquired.

Size of play group

4a. Is the size of the play group a variable in the target children's rates of social interaction with non-handicapped peers?

While each target child's play group consisted of three non-handicapped children (NHC), not always did the whole group go to the intervention setting since it was quickly observed that some skills were best practiced when only one NHC was present. Also, at times it seemed that the three NHC would end up playing together, excluding the target child. However, the size of the play group alone (e.g. 2 vs 3 vs 4), does not appear to dictate more or less interaction but that for some children, a smaller sociodramatic play group may encourage more interaction. For example, Child 2 (attention-control) interacted very minimally with the other children in his play group (3.3% I_n in relation to 2% during the baseline phase). Each child, upon entering the playroom would select a toy, puzzle, game etc. Child 2 would often select a puzzle and then would play alone with it. When only he and another child were brought to the playroom, the other child chose to color and he played a game by himself. However, Child 1 does appear to interact more when only with one other child as represented by open circles on Figure 1, (Feb. 16 and March 7, April 11). However, on March 23rd, also only with one other child, he did not interact at all. Child 3 does not appear to be affected by the number of peers he is with. On February 23, 27, 30 and March 21, he was with one other child; on March 6, 9 and on April 6, he was with three other children. For Child 4, initially it appeared that he would interact more when only with one other child, but toward the end of the intervention phase seemed to interact as much when three other children were present.

Generalization

5a. Do the target children's rate of social interaction with non-handicapped peers (I_n) increase, decrease or remain the same during weekly probes in the classroom during center time?

Here, we are concerned with the generalization of the intervention from the sociodramatic play group situation, outside the classroom, to center-time within the class. No specific strategy was employed to encourage generalization except to remind the children to "talk" and "share" at times other than when in the intervention setting. On Figure 1 weekly probes for generalization in the classroom are represented by black dots during the intervention phase.

From visual inspection of this Figure, it appeared that generalization depended on the child, with Child 1 and Child 4 demonstrating some increase in % I_n during center time in class. This appeared to suggest that for these 2 children limited generalization of the skills learned in the play groups occurred. For Child 1, the mean rate of social interaction with non-handicapped peers during center time in the classroom, increased to 10% I_n (from 0% I_n during baseline). For Child 4, the mean rate increased to 12% (from 4% I_n during baseline). However Child 3's rate actually decreased from 14% I_n during baseline to 12% I_n in the classroom. Overall, there is a mean % increase in I_n of 5% for the three children in the socicdramatic play condition (see Tables 20-22).

Insert Tables 20-22 about here

Child 1, prior to intervention was not observed to interact at all with his peers. Once the intervention was started, some interaction was noted in class, at least for the first 4 weeks. Interestingly, this child's interactions in his classroom, were not with children who were in his play group. Observing Child 1's profile, it can be seen that the rates of social interaction in the classroom dropped off after the fourth week. Two possible explanations are that 1) the play groups could only meet twice each week at that time due to St. Patrick's Day and Easter activities (as well as holidays on both Fridays) and 2) during center time, the teacher requested that the children complete various holiday crafts so that the children were spending more time sitting at craft tables.

Figure 1 shows that Child 4's level of I_n only started to increase at the end of the intervention phase. While there was an overall increase of I_n by 8% during this phase, after 6 weeks of intervention there was only an increase of 2% over the baseline percent of I_n . For this child, it may be that he would have benefitted from a longer period of intervention. Since

Table 20

Rank Ordered %I_n: Child 1's Class (Intervention Phase)

Child	T^c	T_t	I^h	I_n	N^h	N_n	P	I/U
C	0	10	0	32	0	0	32	26
A	4	8	0	32	0	0	33	24
B(NHC)	5	5	1	32	0	0	35	23
E	3	4	0	29	0	0	48	19
H(NHC)	5	9	5	28	0	0	26	28
L	5	5	1	23	0	0	36	30
M(HC)	4	6	1	22	0	0	27	39
I(HC)	8	8	6	18	0	0	21	40
G	3	3	0	20	0	0	49	26
F	0	10	0	15	0	0	48	28
D(NHC)	1	3	0	14	2	0	41	40
K	1	5	5	13	0	0	43	34
N(HC)*	3	34	9	10	0	0	28	18
J	15	8	0	8	0	0	38	33
$\overline{X}$	4	8	2	21	0	0	36	29

Note. (HC)* = Target child
(NHC) = Sociodramatic playgroup peers
(HC) = Other children with handicaps

Table 21

Rank Ordered %I_n : Child 3's Class (Intervention Phase)

Child	T^c	T_t	I^h	I_n	N^h	N_n	P	I/U
H(NHC)	4	4	0	56	0	0	26	14
B	4	15	0	50	0	0	18	18
G	4	2	2	38	0	0	48	12
J	4	10	0	36	0	0	26	26
F(NHC)	2	6	0	36	0	0	50	6
E	0	2	0	36	0	0	46	16
O	0	2	0	34	0	0	38	26
C	2	4	0	30	0	0	50	14
K	0	10	0	30	0	4	40	16
L(NHC)	0	0	0	26	0	0	46	28
A	2	6	0	24	0	0	56	12
M	0	8	0	23	0	0	60	10
I	2	4	2	22	0	0	44	26
N	0	8	2	22	0	0	64	4
D	2	16	2	22	0	0	32	26
P	2	6	0	20	0	2	42	28
Q(HC)*	4	6	0	12	0	2	62	14
$\overline{X}$	1	6	1	30	0	1	44	17

Note. (HC)* = Target child
(NHC) = Sociodramatic playgroup peers

Table 22

Rank Ordered %I_n: Child 4's Class (Intervention Phase)

Child	T^c	T_c	I^h	I_n	N^h	N_n	P	I/U
F	0	0	0	64	0	0	26	10
D	2	9	0	46	0	0	32	12
A(NHC)	0	2	2	44	2	2	30	18
E(NHC)	2	3	0	42	0	0	34	19
I	2	3	0	36	0	0	44	15
K	0	2	0	30	0	0	35	33
G	2	7	2	24	0	0	25	41
O	0	4	0	22	0	0	33	41
B(NHC)	2	7	2	20	0	0	32	37
L	3	9	0	20	0	0	48	20
C	2	5	2	19	0	0	53	20
N(HC)	2	15	0	17	0	0	48	19
M	0	5	0	15	0	0	56	24
H	7	14	2	14	0	0	34	31
P(HC)*	10	37	0	12	0	0	17	24
J(HC)	7	25	3	7	0	0	27	31
$\overline{X}$	2	9	1	27	0	0	36	25

Note. (HC)* = Target child
(HC) = Other children with handicaps
(NHC) = Sociodramatic playgroup peers

the increase was only observed during the last week of investigation, this child's teacher did not notice much of a change in his social behaviour.

Child 3 demonstrated the most social interaction during the baseline phase (mean of 14% I_n). His rate in the classroom remained virtually unchanged during the intervention phase, actually decreasing by 2%. It appears that for Child 3, generalization of social skills learned during the sociodramatic play groups did not occur. This child compared to Child 1, Child 2 and Child 4, was already using some social skills in interacting with his peers during the baseline phase and perhaps was already using all or most of the skills he possessed. It is possible that Child 1 and Child 4 demonstrated more performance-type social deficits and the intervention assisted them in using social skills they already had but were not using. This will be discussed in greater detail in the Discussion.

Child 3 also appeared to prefer to play by himself on most occasions because two little girls in his class (not play group peers) would often be seen trying to play with him. However, he often responded negatively to these initiations by "growling", saying "no" or pushing them away. For this child, the continuity of the intervention was affected since he was away for a week shortly after Spring Break.

To summarize, limited generalization occurred for Child 1 and 4 only. The fact that this was minimal indicates that programming for generalization is required. Intervention carried out directly within the classroom and longer intervention periods should be examined further.

In terms of Child 2's intervention phase, it can be seen that his level of I_n remained fairly close to baseline level except for 2 days (February 17 and February 27). On these 2 occasions Child 2 was seen to interact with non-handicapped peers 20% and 40% of the time, respectively. It is not known why on these 2 days Child 2 was more interactive. On February 27th he was seated beside a little girl with whom he interacted on every occasion. This little girl is denoted as Child M on the Data Summation Sheet for Child 2 during the intervention phase (see Table 23). As can be seen, she was the least interactive of all the children in her class (7% I_n) during this phase. It is not known if these 2 children felt "comfortable" interacting with each other on that particular day, both being quite

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Insert Table 23 about here

Table 23

Rank Ordered %I_n: Child 2's Class (Intervention Phase)

Child	T^c	T_t	I^h	I_n	N^h	N_n	P	I/U
H	3	2	0	38	0	2	32	23
A	0	7	0	35	0	0	42	17
B(NHC)	5	5	2	35	0	0	35	18
D	0	2	0	34	0	0	50	14
L	0	7	0	30	0	0	48	15
I	2	10	0	28	0	0	42	18
G	2	2	0	27	0	0	47	23
N(HC)	6	6	0	26	0	0	40	20
E(NHC)	2	3	3	25	0	0	38	28
C	2	7	0	25	0	0	45	22
F	2	10	3	25	0	0	38	22
J	0	2	0	16	0	0	53	28
O(HC)*	7	13	0	13	0	0	28	38
K(HC)	13	27	0	10	0	0	10	40
P(NHC)	7	5	2	7	2	0	33	45
M	0	5	3	7	0	0	50	35
$\overline{X}$	3	7	1	24	0	0	40	25

Note. (HC)* = Target Child
(NHC) = Child-Directed Playgroup Peers
(HC) = Other children with handicaps

socially isolate.

Social Interaction with Handicapped Peers (I^h)

6a. Do the target children interact with classmates who also have special needs?

In Tables 2-5 can be found the rates of social interaction with peers who are handicapped (I^h) for each of the target children during the baseline phase. It should be noted that the other children who had special needs in each classroom, had handicapping conditions that would be considered mild in comparison to the target children. These other children would not be noticed as being different from the non-handicapped children by casual observers. As well Child 3 did not have other children with handicaps in his class. Child 2 was not observed to interact more with children who were with children who were also handicapped (% I^h= 0%) than with children who were not handicapped. Child 4 was seen to interact with children with special needs 1% of the time and Child 1, just slightly more (% I^h= 3%). Thus, during the baseline phase, Child 1 only interacted with children who had special needs. Actually, it was observed by this investigator that Child 1 interacted with the same little girl who had special needs throughout the study, and at an increased rate following intervention. Children 2 and 4 interacted more frequently during the baseline phase with non-handicapped peers than peers with special needs. This rate, however, as previously mentioned, was minimal and did not differ from the average rate of I^h for their class mates.

During the intervention phase, weekly generalization probes in the classrooms revealed that Children 2 and 4 did not interact with handicapped peers. Child 1 interacted with a little girl with mild special needs (Child 1) 9% of the time (compared to a baseline level of 3% I^h).

During the follow-up phase, Child 2 again did not interact with peers who were handicapped. Child 1 and 4 had I^h rates of 8% and 2%, respectively. Mean % I^h during each phase of the intervention for each child are graphically represented in Figure 2.

Insert Figure 2 about here

Interaction with Teachers

7a What are the target children's rate of interaction with their teachers?

Throughout this study it was apparent that the target children spend much of their time in their classes, interacting with their teachers. Figure 2 graphically represents the mean percent interaction of

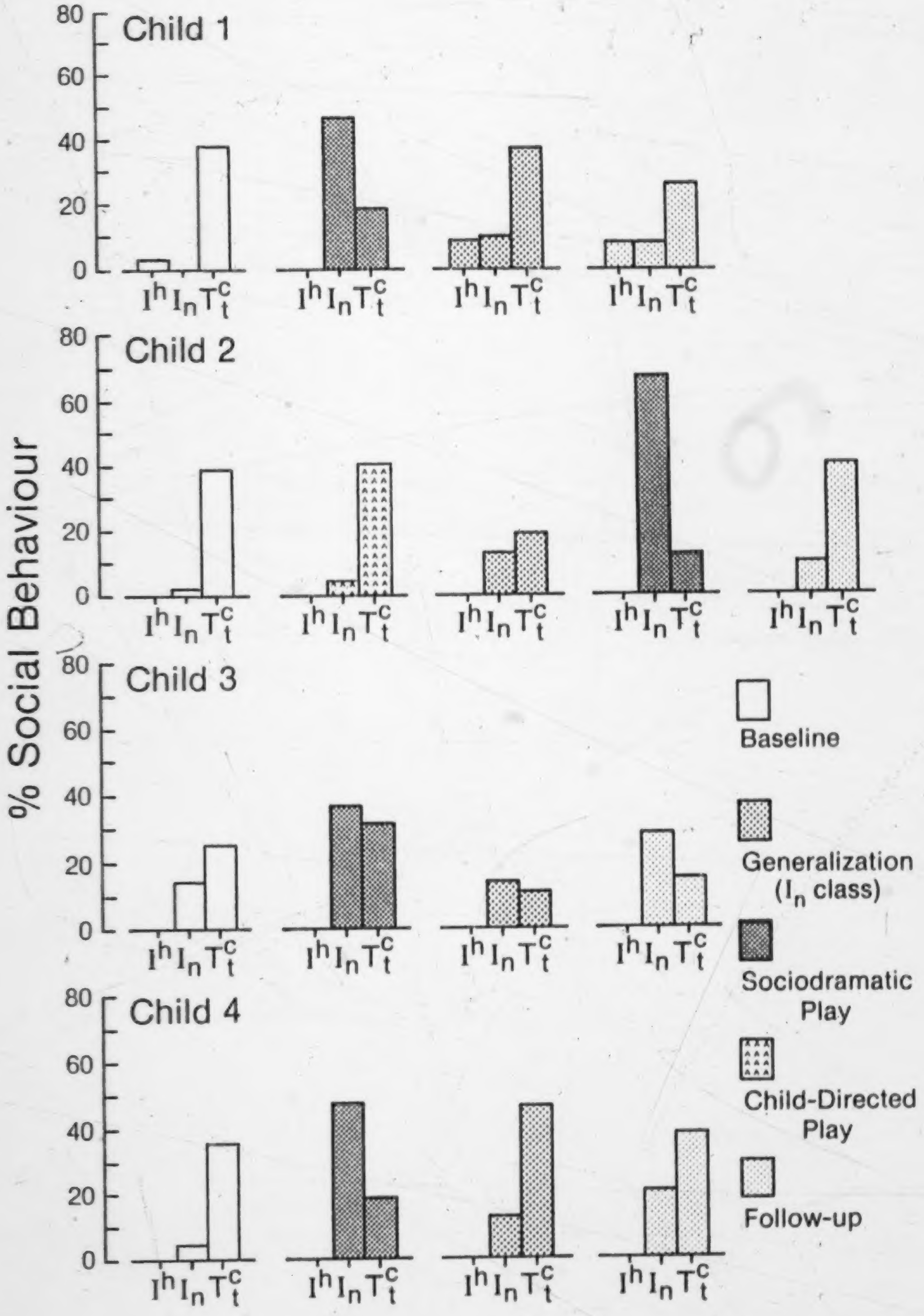

Figure 2. Mean percent I^h, I_n and T_t^c for each target child during baseline, intervention and follow-up phases.

teacher with child and of child with teacher (% T^{c}_{T}) (% T^{c} + % T_{T}) for each target child.

The various phases of this investigation are demarcated along the horizontal axis. The % social behaviours are represented along the vertical axis. It is clear that during the baseline, intervention in-class generalization measure, and follow-up phases, that the target children interacted more with adults. In comparison to the class averages of time spent interacting with teachers, % (T^{c} + T_{T}), the target children's rates are markedly higher (see Tables 2-5, 13-16, 20-23).

It is interesting to note from Figure 2 that, except for Child 3's generalization and follow-up measures, only during the sociodramatic play condition is the rate of I_{n} higher than the rate of T^{c}_{T} . Thus, the target children in this study are socially isolated from their peers and spend much of their time interacting with their teachers. During sociodramatic play, the situation was reversed.

Teacher Rating Scale

A Teacher Rating Scale was employed as one of the instruments to evaluate the target children's rates of social interaction with non-handicapped peers before and after intervention. Thus, the following research question was posed.

7a. How do the target children's teachers describe their rate of social interaction with non-handicapped children?

Table 24 indicates the trend of change in the

Insert Table 24 about here

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teachers' rating of each target child for each of the T.R.S. (Odom et al., 1988) questions between pre-and post- intervention ratings.

Child 1 was rated as having increased positive social behaviours in three of the four positive behaviours listed. There was no change indicated in the negative behaviours. Data for Child 2 (attention-control) suggest no change in positive social behaviours, nor in the negative social behaviours except for a negative trend indicated for the item "Child interacts mostly with adults". Child 2's teacher rated him as seeking even more attention from adults than he had done previously. Child's 3 teacher, similar to Child 1's, rated him as having increased in positive social behaviours in 3/4 of the items. No change was indicated for the negative items. Child 4's teacher did not rate his positive social behaviours as having increased but did indicate a positive trend for one of

Table 24

Summary of Teacher Ratings of Social Interaction Using T.R.S.[a]

T.R.S. Items[b]	Child 1			Child 2			Child 3			Child 4		
occurs very little ... occurs sometimes ... occurs often 1.......2.......3.......4.......5	PRE	POST	TREND	PRE	POST	TREND	PRE	POST	TREND	PRE	POST	TREND
Positive Social Behaviours												
1. Child talks to other children while playing	1	3	+	2	1	.	1	3	+	1	1	.
2. Child shares toys with other children	3	4	.	2	3	.	1	3	+	3	3	.
3. Child imitates play with another child	1	3	+	1	1	.	1	1	.	1	1	.
4. Child responds to initiations by another child	2	4	+	3	3	.	1	3	+	3	4	.
Negative Social Behaviours												
1. Child stands or sits alone, not engaged in play	2	1	.	1	2	.	3	2	.	3	1	+
2. Child plays with toys inappropriately	2	2	.	1	2	.	2	3	.	2	4	+
3. Child interacts negatively with other children	2	1	.	1	1	.	4	3	.	1	1	.
4. Child interacts mostly with adults	4	4	.	3	5	-	3	3	.	4	5	.

a. trend: a difference of 2 points between pre-intervention and post-intervention item ratings was required on an arbitrary basis for any significance with - being a negative trend, + being a positive trend towards increased peer interaction and . being no change (Summary format taken from Croft, 1983, p. 103)

b. Teacher Rating Scale, Odom et al., 1988 the negative behaviours--"child stands or sits alone, not engaged in play". She also, however, indicated a negative trend for "child plays with toys inappropriately".

Thus Child 1 and Child 3 were rated by their teacher's as having better positive social skills after intervention than before. There were no differences indicated in positive behaviours for Child 2 (attention-control) and Child 4. However, a positive trend was indicated for Child 4 for one of the negative social behaviours.

Language Samples

Since language development and use is intricately intertwined with social skillfulness, (Mori & Neisworth, 1984), pre and post language samples were taken for the target children. These samples were taken in an effort to determine if any changes in language sample measures and language function occurred as a result of the intervention. Thus the following research question was posed:

9a. As determined from language samples, does the mean length of utterance, type/token ratio, # of initiations to peers, # of initiations to adults, # of responses to peers and # of responses to adults change between the baseline and follow-up phases? (see Appendix D for behavioural definitions)

During the baseline and follow-up phases, language samples for all four children were taken by a speech pathologist. The samples were obtained in order to determine if any changes in the children's expressive language use and functions occurred following intervention. Table 25 outlines language functions and

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Insert Table 25 about here

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and Table 26 outlines the mean length of utterance

Insert Table 26 about here

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and type/token ratio for each child. Measures taken during the baseline phase in January are indicated by the top numbers for each child and follow-up measures (taken in April) are indicated by the bottom numbers.

For the three children in the sociodramatic play condition there does not appear to be much of a change in the pre and post language samples measures.

In terms of language functions, a couple of discrepancies occur (for Child 1 -- Responses to Peers increased after intervention; for Child 3-- Initiations to Peers and Self-Talk increased and for Child 4, Self-Talk decreased). It should be noted that no conclusions can be drawn since only two half-hour samples were taken for each child.

Table 25

Measures of Language Functions for Each Child[a]

Child		Initiations to Adults	Initiations to Peers	Responses to Adults	Responses to Peers
1	January	2	4	3	3
	April	1	5	3	8
2	January	13	5	0	1
	April	11	25	4	11
3	January	11	14	6	12
	April	8	2	7	1
4	January	11	0	3	2
	April	10	0	5	0

[a] See Appendix G for behavioural definitions

Table 26

Mean Length of Utterance (M.L.U.) and Type/Token Ratio (T/TR)[a]

Child		M.L.U. (morphemes)	T/TR
1	January	1.8	.702
	April	2.4	.533
2	January	3.9	.433
	April	3.3	.424
3	January	2.0	.410
	April	1.9	.689
4	January	3.2	.518
	April	3.9	.541

[a] See Appendix G for behavioural definitions

For Child 2, the mean length of utterance and type/token ratio remain virtually unchanged (between the January and April measures). However, as can be seen in Table 25, Child 2's initiations to peers increased 5 times and his responses to peers increased 11 times in April. It should be noted that the tent and camping props that this investigator used during the intervention phase for the sociodramatic play condition was in the classroom. Child 2 was thus engaging in sociodramatic play while this sample was taken and this does no represent a true post-intervention sample.

In summary, because of various limitations to the taking of the samples, no real conclusion can be drawn from these data.

Social Validity

10a. Do the target children's teachers view the intervention as making a positive difference in their lives?

While sociodramatic play and the Direct Instruction of Social Skills proved very effective in increasing the target children's social interaction during the play sessions, only for Child 1 and Child 3 was there a noticeable change by their teachers in the classroom. Discussion with Child 1's teacher and teacher assistant revealed that they felt that the intervention was certainly of benefit to this child. They commented that

Child 1 talked louder, laughed, chose centers such as sand, water and the climbing apparatus that he had not chosen before and he offered more during "circle time". They felt that the intervention made Child 1 feel more comfortable with the other children and that other children were talking to him more.

For Child 3, weekly probes did not reveal that generalization occurred. However his teacher and teacher assistant felt that he was interacting more with the other children then he had before. Child 2 and Child 4's teachers did not notice any change.

All teachers felt that increasing the childrens' social integration would be of benefit to the children and expressed that this kind of intervention is important (for a copy of the questions posed to the teachers, see Appendix H).

Summary

Figure 3 summarizes the interactions with non-handicapped peers (I_n) during all of the phases of this

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Insert Figure 3 about here

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investigation for the four target children. It should be noted that there are five bars in Child 2's data since he participated in both the attention-control

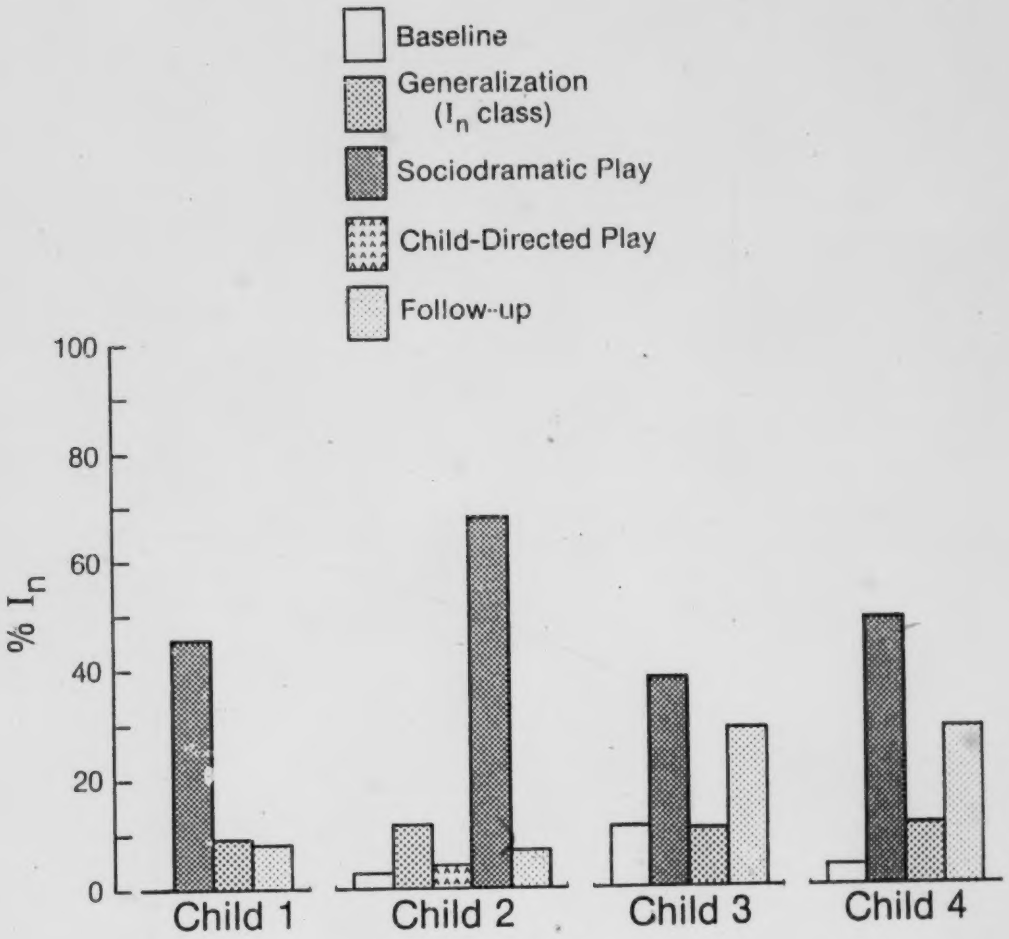

Figure 3. Percent social interaction with non-handicapped peers during baseline, intervention and follow-up phases.

condition and briefly in sociodramatic play. As is illustrated by bar graphs, the rate of social interaction with non-handicapped peers (I_n) for the children are low during baseline, and follow-up phases. Generalization to the classroom setting was limited. Rates of I_n were two to six times higher during the sociodramatic play conditions. It appears from this data that sociodramatic play with Direct Instruction of Social Skills is effective in stimulating social interaction between children with handicaps and their non-handicapped peers.

While the target children's rates of I_n in their classrooms remained relatively low as compared to their rates during the sociodramatic play groups, their interactions with teachers remained high. Results from language samples were inconclusive. The Kindergarten teachers all felt that this kind of intervention, aimed at increasing the social integration of children with special needs is very beneficial for the children.

In the following chapter is a discussion of the results in light of the review of the literature.

CHAPTER SIX

Discussion

Introduction

In Alberta, the integration of children with special needs into regular Kindergarten classes is becoming more commonplace. As previously discussed in the review of the literature, integration may benefit both the children with handicaps (Guralnick, 1981; Turnbull, 1982; Vincent et al, 1981) and their typically developing peers (Esposito & Peach, 1983; Stainback & Stainback, 1982; Strain et al., 1985). Since Alberta Education's Early Childhood Philosophy stresses that children learn through play ("Philosophy, Goals and Program Dimensions", Alberta Education, 1984), intervention techniques to increase the social integration of children with handicaps in Kindergarten classes should be developed with a focus on play and on fostering peer relationships.

This chapter will discuss the results of this investigation in light of the literature review. Specifically, issues regarding spontaneous social integration, performance versus skill deficits, the effectiveness of the intervention, the differential responses to the intervention of the target children, generalization and modifications to the intervention will be addressed. In conclusion, limitations of this investigation and directions for future research will be presented.

Spontaneous Social Integration

At the beginning of this study, four children with special needs were observed during center time in their Kindergarten classes. Just as is described in the literature, the physical integration alone of the four children in this study did not promote spontaneous social integration. The children were observed to interact mainly with the adults in their classrooms or to play alone. Although negative interactions between the target children and their peers were not observed, certainly the pattern of social interaction was similar to that described by Odom et al., (1988): "In mainstreamed classes, non-handicapped children maintain closer proximity to their non-handicapped peers than to the handicapped peers and engage in higher frequencies of positive social behaviour with other non-handicapped children" (p.4). It should be kept in mind that the children in this study were moderately handicapped. Children with mild handicapping conditions may not have been so isolated. It was apparent that if social integration was a goal for these youngsters, educators would need to make specific attempts to promote increased social interactions between them and their non-handicapped peers.

Social Performance Deficits

Given the social isolation of the target children at Vital Grandin School, it is important to conceptualize the nature of the social difficulties these youngsters demonstrate. It is possible that different intervention techniques benefit children with different handicapping conditions. Gresham (1981) stated that:

> There is a need to investigate more fully the social skills technique by type-of-handicapped child interaction. That is, we need to know which techniques will or will not be successful with which type of handicapped child. It is not surprising that manipulation of antecedents and consequences have been most successful with the more severely handicapped populations. By the same token, the more cognitively-based techniques such as modeling, coaching, and self-control training have been most successful with either mildly handicapped or non-handicapped populations. (p.168)

As was previously discussed in the review of the literature, Gresham (1981) conceptualized social skill deficits along the dimensions of 1) skill deficits, 2) performance deficits and 3) self-control deficits. Children demonstrating performance deficits may have the social skills in their repertoires but do not perform them (Gresham, 1986). Possible explanations for social performance deficits may be lack of motivation, or an absence of opportunity to perform the behaviours. This conceptualization became important to this investigator fairly early in the study. The target children, who were socially isolated in their classrooms prior to intervention, were observed to talk and to interact with their peers almost immediately in the sociodramatic play condition. The attention-control child, in the child-directed play condition, remained isolated in his playgroup. It may be that Child 1 and Child 4 in particular, (who demonstrated much more social interaction within the playgroup setting) possessed a variety of social skills, but did not use them. The task then became one of determining not how to teach them skills they did not have, but how to stimulate the children in using skills that they already possessed. Child 3 was the most socially interactive to begin with and did not demonstrate as great an increase in social interaction in the sociodramatic playgroups as did Child 1 and Child 4. He perhaps was already using many of the skills he possessed. This notion of performance deficits is related to Sainato's (1985) observation that early childhood special educators are shifting their focus away from a skill-based orientation regarding socialization to an interactional view focussing on the "child-environment fit" as was previously discussed. Observing such dramatic increases in social interaction by simply making environmental manipulations also lends support to Odom and Strain's (1984) suggestion that "materials and activities can have a great impact upon social skills instruction" (p.99). Thus, ecological variables are important to consider with children who may have social performance deficits.

Peer-Mediated Interventions

This study relied on the use of non-handicapped peers in increasing the social interaction of children with handicaps. The responding strategies from the D.I.S.S. were peer-mediated where peers were encouraged to talk and to share with the target children. The target children were in turn encouraged to respond to their peers. As well, peers modelled the initiation strategies. The D.I.S.S., within sociodramatic play sessions, appeared effective in stimulating social interactions. Since both sociodramatic play and the D.I.S.S. scripts were used simultaneously, it is difficult to separate the effects of the sociodramatic play alone versus the effects of the D.I.S.S. However, on 3 occasions, the attention-control child participated in sociodramatic play without D.I.S.S. and his social interactions increased remarkably. It is not known whether the D.I.S.S. contributed to any generalization of skills learned in the play settings to the classroom setting. In a study by Guralnick (1976), programming to increase social interaction involved placing a child with handicaps and two peer models together in a room with only three selected toys for 15 minutes. This modification alone (similar to the attention-control condition in this study) did not increase the child with handicaps' level of social interaction. Nor did direct prompts to the child with special needs to watch the other children, increase social interaction. Only when the non-handicapped children were verbally prompted to interact with the child with handicaps did that child show an increase in positive social play.

Odom et al., (1988) stated that two components must be present for a social skill training program to be successful. First, a child must respond to initiations made by peers in a positive manner in order to continue the interaction or to encourage the peer to initiate at a later time. Second, the child may need to learn to initiate to a peer in a way that is likely to obtain a positive response from other children. During most of the intervention phase in this study, it was observed that the non-handicapped peers were keen on initiating and playing with the target children. This investigator noticed however, that by around the 5th week of intervention, some of the excitement that the non-handicapped children had displayed earlier on appeared to wane. It required a little more coaxing to encourage the children to leave their classrooms. This would need to be kept in mind in future interventions such as this one. Perhaps different play group peers could be used after a certain period of time. This investigator was aware that most of the other children in the classes who were not part of the playgroups often asked their teachers to have a turn to go to the playrooms. This waning of interest could possible also be counteracted it intervention were to take place in the classroom.

Effectiveness of the Intervention

This study used a portion of Odom et al.,'s (1988) Integrated Preschool Curriculum as the independent variable. The sociodramatic integrative activities from the curriculum were chosen since Odom et al. suggested that they were a good medium for the D.I.S.S.

component. As well, they represented an ecological variable that was fairly simple to manipulate within Kindergarten classrooms. As was discussed in the Results chapter, sociodramatic play proved effective overall in increasing social interactions between children with and without handicaps. As well, the increase in social interaction with peers was accompanied by a decrease in interaction with teachers for Children 1 and 4. This has implications for the use of such an intervention in large, busy, Kindergarten classes. If children with special needs are to remain integrated, interventions are required that are not time-consuming, requiring a lot of teacher time.

While only a portion of the Integrated Preschool Curriculum was employed, it appeared to this investigator that this multifaceted package would lend itself both to children acquiring very basic play skills (still learning to manipulate toys in an appropriate manner) and to children who are ready to take on roles in sociodramatic play. While the children in this study mastered the Level 1 play objectives outlined for the activities, they still were not able to perform the Level 2 social objectives. This intervention was only carried out for 5-7 weeks. The children would probably have benefited from such a program instituted throughout the year.

It is this investigator's opinion that the Integrated Preschool Curriculum would be beneficial for children categorized within Gresham's (1981) three social skill dimensions --i.e. those with social skill deficits, those with social performance deficits and those with self-control deficits. The IPC addresses the manipulation of antecedents (e.g. setting up the environment to increase social play and using peers as change agents), the manipulation of consequences (reinforcement by teacher and peers), modelling (teacher and peer demonstrations of social skills) and cognitive-behavioural techniques (e.g. the use in the D.I.S.S. of the coaching script and verbal mediation). It may be though, that children with lower cognitive abilities would benefit more from the functional and constructive integrative activities in the curriculum and that only children with higher cognitive abilities would be able to progress to the point of mastering the objectives in the Level 2 sociodramatic integrative activities. This was not addressed in this study. While the intervention was successful in increasing the social interactions of the three target children in the sociodramatic play group setting, generalization of skills learned in the intervention setting to the classroom setting was minimal. This will be addressed further under the section on Generalization.

In summary, simple ecological manipulations such as sociodramatic play appear to be effective in setting the occasion for increased social play. D.I.S.S. within such play settings may teach children important responding and initiating strategies for entering group play with peers. It appears that without modification to the manner in which the intervention was carried out in this study, generalization will probably not occur to any great extent for children with moderate handicaps.

Differential Response to the Intervention

In the literature review, the complex nature of social skill development in young children was addressed. Gottlieb and Layser (1982) summarized this complexity by stating:

> The complexities inherent in determining the extent to which mainstreamed retarded children will be socially accepted transcend children. They also involve classroom teachers and peer groups, both of whom combine to shape and influence the social environment in which mainstreamed children live. (p.60)

In this investigation, sociodramatic play increased the level of social interaction for the three children.

Variability was still evident within the intervention data paths for each of the children within the play group settings. For Children 1 and 4, the rates of social interaction increased to quite an extent in the sociodramatic playgroups over baseline levels, but there was less of an increase for Child 3. In terms of generalization, Child 3 did not appear to generalize skills from the intervention setting to the classroom. There are many factors that may contribute to the variability observed. Strain and Kohler (1988) stated that "the ecology of social skill deficits and their continuity across time represent a complex interplay of person, peer group and environmental variables" (p.129). Although a detailed review of the different variables that could be involved is beyond the scope of this discussion, several person variables that could have played a role include the developmental levels and severity of handicap of the children (Guralnick, 1982) and temperament (Thomas, Chess and Birch, 1970). Peer group factors may have included peer attitudes (Gottlieb & Leyser, 1982), modelling effects (Gresham, 1981) and the match between the developmental levels of the handicapped and non-handicapped children (Guralnick, 1982). Since the environmental conditions were similar for the 3 children in the sociodramatic play condition, ecological variables probably did not account significantly for the variability observed between children. It was noted that within the sociodramatic play activities themselves, some appeared to stimulate more social interaction than others (e.g. Camping, Dress-Up, Hamburger Stand and Doctor stimulated more interaction than did Grocery Store). In Grocery Store, the children (even the non-handicapped peers) did not seem to be able to generate much enthusiasm about the activity. As well, the child who was the cashier would only interact with another child if that child was ready to pay for the groceries.

It is this investigator's opinion that cognitive level and language skill were probably the most important variables in attempting to explain the differential responses between the children to the intervention. Child 1's cognitive ability was higher than that of the other children. Even though his speech was difficult to understand, the other children eventually could understand most of it since he learned to speak louder than he had previously. He was able to progress relatively quickly through the D.I.S.S. and would understand directions such as "You need to talk louder" or "You need to talk slower" or "__________is asking you a question". Child 3 spoke in 2-3 word phrases that were limited in terms of variety of meaning. As well, his speech was not clear. His cognitive level was lower than the other children's but he was a good imitator. Child 4 had good expressive language which was easily understood but often what he said was unrelated to the situation or it would be an echolalic response to something he had heard earlier.

The differences between the non-handicapped peers could also play a role. It was observed by this investigator that the girls in the study were by far the most effective when interacting with the target children. The boys were more interested in interacting amongst themselves, or with the materials and appeared to be more self-centered.

Thus, there are numerous factors involved that may determine the effectiveness of an intervention. In this study, while sociodramatic play overall was effective in stimulating social interaction between children with handicaps and their non-handicapped peers, variability between children and activities was evident. Person, peer-group and environmental variables interacted in numerous ways causing differential responses to the intervention.

Generalization

Stokes and Baer (1977) defined generalization as "the occurrence of relevant behaviour under different non-training conditions without the scheduling of the events in those conditions as had been scheduled in the training conditions" (p.350). In this study, children were taken from their classrooms to different settings (sociodramatic versus child-directed playrooms) for the intervention. Odom et al., (1988) have designed the Integrated Preschool Curriculum to be used during playtime within the classroom and it was recognized by this investigator that the intervention should ideally have been carried out there. This was not feasible for several reasons. First, since this was a fairly brief study, only the children in the play groups were able to participate. There was insufficient time to promise a turn to all the other children in the classes. This investigator felt that it would be difficult to structure sessions such as "Birthday Party" without having all the other children watching or requesting to join in. Second, this investigator did not want to disturb the on-going activities in the classroom since this was still an exploratory investigation.

For Child 1 and Child 4, some generalization may have occurred but it was limited. For Child 3, generalization did not occur. This study demonstrated therefore, an outcome similar to that described by Baer et al. (1968) -- i.e., generalization will not occur without an active stance by the trainer and must be programmed into social skill intervention programs (Michelson & Mannarino, 1986). Since sociodramatic play was shown to be effective in increasing social interactions, sociodramatic activities should be set up in the classrooms. All the children in the classes could take turns with the activity but only the groups with target children would receive the Direct Instruction of Social Skills component. After several weeks the non-handicapped peers in the target children's groups could be changed so that eventually all the children in the class will have experienced the initiating and responding strategies from the D.I.S.S. Teachers could encourage the use of these strategies in other activities and throughout the day. This investigator did observe upon rare occasions the use of some of the D.I.S.S. strategies in the classroom. For instance, Child 1 was seen on one occasion to ask "Can I play too?" and a little girl in Child 4's class seemed to recognize that she could talk and share with the target child in the classroom as well as in the play group.

It is this investigator's opinion that the peer-mediated strategies put more emphasis on peer-peer interactions than do many teacher-directed strategies. On many occasions this investigator was able to fade herself out of the play sessions while non-handicapped peers prompted the target children to play. Modifications to the intervention as were described above would hopefully stimulate more generalization than occurred in this study.

Modifications to the Intervention

During the course of this investigation it was determined that a few modifications to the intervention appeared to be warranted. A sensitive issue concerns whether or not to discuss with the non-handicapped peers their role in directly assisting the target children. It was not clear from the D.I.S.S. scripts whether the children should be taught to "talk" and "share" generally with all children and then hope that some of their interactions would be directed to the target children or whether they should be directed specifically to talk and share with the target children. This would necessitate some sessions without the target children being present. One of the parents of a non-handicapped peer in Child 2's play group (before this child was assigned to the attention-control situation) requested that the investigator not tell him that the target child had special needs and may require assistance playing.

This child's parent felt that her son was not aware that some of the children in his class were handicapped and she did not want this pointed out to him. This needs to be considered when planning the play sessions.

The size of the play group should also be considered. Some children with special needs appear inhibited by too many children and may withdraw. It was noticed that for Child 1 in particular, the size of the play group seemed to be a factor. He interacted with a peer much more readily when there was just himself and 1 other child. The observation was also made that non-handicapped girls appear to be much more effective in encouraging the target children to play. They more readily adopted a role of helper or of teacher than did the non-handicapped boys who played together and required many prompts to interact with the target children.

For the purpose of generalization, it would probably be beneficial to change the peers in the target children's play groups every month or so. The play sessions should be carried out within the classrooms and the teachers should encourage the use of skills learned in the sociodramatic play sessions at other times and during other activities.

To conclude, some modifications to the intervention appear warranted. The sociodramatic play sessions and D.I.S.S. should be carried out within the classrooms and non-handicapped peers may require some explanation as to their roles in encouraging the target children to play. The size of the play groups and the gender of the non-handicapped peers should also be considered.

Ethical Considerations

The attention-control child in this investigation did not participate in sociodramatic play with Direct Instruction of Social Skills. Ethically, the child should have received intervention as he was randomly chosen to be in the control situation. While providing this child with the intervention was not possible during the year of the study, he will be eligible to participate in a sociodramatic playgroup during the following school year.

Directions for Future Research

Social skill development in young children is a very complex issue. Affected by numerous variables, yet crucial for successful functioning in later life, the acquisition of social skillfulness has recently been examined by many researchers. Investigators often adopt different orientations and often examine only a small piece of the puzzle (for example examining the effect of modeling versus a child's toy use skills for promoting social integration). In attempting to piece together some of the puzzle, this investigator envisions five strands of future research focussing on person variables, peer-group variables, environmental variables, social integration as a possible mediating variable for future development and developmental outcomes.

With respect to person variables more research is required that focuses on developmental level, temperament, physical and sensory intactness, toy use skills, motor ability and so on. For example, further investigations could determine if the Integrated Preschool Curriculum was more effective with children who are mildly handicapped than with children who are moderately or severely handicapped. Different portions of the curriculum may be more beneficial for one group. A certain level of language proficiency may be required for children to interact successfully with their peers in the play activities. Some children may not have a sufficient cognitive level to be able to participate in sociodramatic play.

Further research on peer-group variables such as peer attitudes, modelling effects, preparation for mainstreaming, and the match between developmental levels of handicapped and non-handicapped children is also needed. Related to these, is a need for further research on the social processes that developmentally delayed children require to develop friendships.

Environmental variables include factors related to the teacher, the program and the setting. There is a need for more research on the effects of teacher expectations, and teacher preparation for mainstreaming. How does the structure of a play situation affect social interaction? If children acquire social skills in structured situations will they generalize these skills to enable them to play with peers in less structured activities? Much of the research has been carried out in integrated special education classes but there is still a need for research into interventions that can easily be used in Kindergarten classes. These two settings are quite different. In Kindergarten classes there usually is only one adult in the room, there are more children, they are less structured and educators can capitalize on the fact that many of the children, being more developmentally advanced, can serve as models and mediators. Investigations are also required to determine which ecological variables are most important in affecting outcome measures.

Social integration may be affected by the interplay of numerous person, peer-group and environmental variables. It is important to attempt to understand these complex relationships since the social integration of children with disabilities has been considered by some investigators to mediate several developmental outcomes (Guralnick, 1981; Jenkins et al., in press). To the contrary, Bricker, Bruder and Bailey, (1982) and Peck and Cooke (1983) suggested that the curriculum used and the quality of instruction may have a greater effect upon developmental outcomes than the presence or absence of normally developing peers. Clearly further research is required in this area.

Fairly extensive research has already been carried out on person characteristics, peer-group factors, and environmental or ecological variables. Much still needs to be done to investigate developmental outcomes as a possible result of social integration. Considering the impact that social competence has on the future of persons with disabilities, this research must be seen as crucial.

Limitations of the Study

This study, carried out in a school setting with four children who were not randomly selected had several limitations. The four children in the study happened to be the only ones at the time who possessed the criteria of having special needs and of being socially isolated.

Except for Child 2, the cognitive levels of the children were not specifically measured by standardized instruments and they differed in their levels of expressive and receptive language. This lack of identification information make inter-subject comparisons speculative. More experimental control may have been achieved by using a larger sample and randomly assigning matched groups of children to sociodramatic versus control conditions.

While sociodramatic play appeared to be effective in stimulating increased social interactions between children with handicaps and their non-handicapped peers, there is a need to demonstrate its effectiveness with more children. Since the target children were only boys, it is difficult to make generalizations on how effective this intervention would have been with girls.

Perhaps the greatest limitation of this study is the fact that the intervention was carried on outside of the classrooms. This may have limited the generalization of skills learned in the intervention setting. With the study structured in this manner, following the 6-7 week intervention phase, the play groups could have then participated in sociodramatic play in the classroom. This was attempted on a couple of occasions with Child 1 but proved not to be successful. The classroom was not set up so that a video camera could be used, the children were difficult to see within the playhouse and the non-handicapped peers were very reluctant to leave the activities going on in other parts of the room since by now interest in the play sessions had waned.

Another limitation was the lack of a measure of the quality of social interactions besides a general division between positive and negative classifications. There may have been instances when interactions were not negative but maybe weren't all that positive either. This was difficult to assess. Certainly the quantity of social interactions increased but the Social Interaction Scan does not specifically measure their quality.

In terms of measuring the social and functional use of language, it is felt by this investigator that ideally longer and perhaps more frequent language samples should have been taken. This was not possible because of time constraints. As well the children should have been wearing small microphones attached to tape recorders to facilitate accurate recording of their language. Language samples should also have been taken during the play sessions since this investigator noticed much more language use during the sociodramatic play condition.

This investigator attempted to take language samples from some of the videotapes but the sound was not clear enough to be able to understand exactly what the children said. Thus while social skillfulness is related to language proficiency (Mori & Neisworth, 1984) the language sample measures and measures of language functions in this study were not considered reliable enough to draw any conclusions. Informal observation by this investigator revealed that the children in the sociodramatic playgroups used much more language there than they did in their classes. Another limitation to the study was the fact that the second observer (to measure the reliability of using the Social Interaction Scan) ended up only observing one classroom. While she observed during 10% of the total recording periods the idea of having her observe in all four classes was abandoned early in the study since it was not possible for her to learn all the children's names in every class in time to carry out the observations.

Conclusion

The social competence of persons with disabilities has a great impact on their future. The four children with special needs in this investigation were socially isolated and did not possess skills that facilitated interactions with their non-handicapped peers. Without specific intervention, it is probable that this situation would remain unchanged.

This investigation was designed to investigate the use of sociodramatic play activities with Direct Instruction of Social Skills to increase the social integration of three of the children. The fourth child was in an attention-control situation. Sociodramatic play with D.I.S.S. was shown to be effective in stimulating the target children's interactions with their classmates within structured playgroups. Generalization to the classroom was limited.

Throughout the study, the target children interacted with their teachers more than did other children in their classrooms. During sociodramatic play, increased rates of interactions with non-handicapped peers accompanied decreased rates of interaction with teachers for two of the three children.

The children showed some variation in their rates of social interaction throughout the different phases of the investigation. Person, peer-group and environmental variables may have contributed to the different responses that were observed. While fairly extensive research has been carried out on how person characteristics, peer-group factors and ecological variables affect social integration, much still needs to be done to determine developmental outcomes of social integration. It may be important to conceptualize social skill difficulties in terms of social skill deficits or performance deficits. Environmental manipulations such as setting the scene for sociodramatic play and training peers to increase their initiations to children with special needs may encourage children with performance deficits to interact more with peers. Other environmental variables such as the size of the playgroups may also affect the rate of social interaction.

The positive benefits of sociodramatic play with D.I.S.S. is encouraging since children naturally engage in pretend play. This type of intervention should be viewed as a step in the right direction towards assisting children with and without handicaps to play together. But, it is only a step. Much still needs to be done to facilitate the social integration of young children with special needs. If, as has been suggested in the literature, children with handicaps make further developmental gains when they are socially integrated with peers, investigations on ways to further stimulate their social interactions will not be in vain.

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APPENDIX A

SOCIODRAMATIC INTEGRATIVE ACTIVITY

DRESS UP

Activity: DressUp (Level I)

Child Objectives:

Play: The child will:

play independently for five minutes;

put on dressup clothes.

Social: The child will:

imitate the play of another child;

help another child dress.

Materials: Dresses, hats, coats, shoes, beads, and other clothes. Optional: dance music.

Teacher's Role:

Arrangement: Have coats, hats, and dresses hung up on hooks in house area. Put shoes and jewelry on a table. Have the mirror set up on the opposite wall.

Introduction: Show children all of the clothes that they can dress up in. Demonstrate how the children put on the clothes and look at themselves in the mirror. Ask each child what he/she is going to dress up as. Suggest that children can trade clothes after they dress up or can help their friends dress.

Examples of Prompts:

Imitation:

"John is putting on a dress and hat. Here are some for you."
"Look at those funny glasses Sue has. Can you put some on, too?"
"Tell your friend, 'You have a pretty dress. That's a nice hat.'"

Share/Trade:

"Ask Sue to help you put on that dress."
"Say '______, want to trade hats?'"
"______, you have all the beads. Give some to ______."

Activity: DressUp (Level II)

Child Objectives:

Social: The child will:

assist another child;

suggest ideas to another child;

take on a role.

Materials: Dresses, hats, coats, shoes, beads, mirror. Optional: stove, table, chairs, dance music.

Teacher's Role:

Arrangement: Have coats, dresses, and hats hung on hooks in the house area. Put shoes and jewelry on a table. Have the mirror set on the opposite wall. Place activity close to housekeeping area.

Introduction: Discuss with children what clothes they are going to wear or what they are going to pretend. For example, children can dress up as a family member (mother, father, baby), as cowboys, for a dance, or going out to eat. Also, children can help friends dress up and talk about the other children's clothes.

Examples of Prompts:

Play Organizer:

"You may ask John to help you dress."
"She has an apron. You may ask her to help make pizza.
"You may tell Sue, 'That is a nice hat.'"
"Ask Sue, 'Want to dance?'"

Share/Trade:

"You may ask Sue if she wants a scarf."
"Say, 'May I use that hat next, please?'"

Role Play:

"Come on, Dad, let's go for a drive."
"Here is some food to eat, baby."

Assist:

"______ can't reach that hat. Will you get it for him?"

"______, hold ______'s coat while she puts it on."

"That's nice, ______; you are tying ______'s tie."

APPENDIX B

DIRECT INSTRUCTION OF SOCIAL SKILLS

I. Responding

Directions	Teacher Wording	Child Response	Performance
A. Introduction Encourage children to articulate that being a good player helps you make lots of friends.	Who can tell me why it's important to be a good player? (Accept reasonable responses.) That's right--and if you're a good player you'll make lots of friends.		
Performance criterion: Child must correctly identify two ways to be a good player.	Now there are two ways to be a good player: talk to your friends and share with your friends.		
	What do you do to be a good player?	Talk to your friends and share with your friends.	
Correction If students do not answer correctly, the teacher should model the answer and say the answer with the children. The question should be repeated until the children can answer correctly with no prompting from the teacher.			
Demonstration The teacher selects a child and goes to a nearby play area to demonstrate positive and negative examples of talking and sharing	Watch me and tell me if I'm being a good player. (Negative example - teacher plays alone away from playmate.)		
	Am I a good player now?	No	
	(Negative example - teacher		

for the other children in the group. Approximately six examples should be presented in the recommended sequence.

Materials: One play area set up.

plays next to playmate but still does not interact.)	
Am I talking or sharing now?	No
(Positive example - teacher talks to playmate.)	
Am I a good player now?	Yes
(Positive example - teacher hands materials to playmate.)	
Am I a good player now?	Yes
(Positive example - teacher talks and shares with playmate.)	
Am I a good player now?	Yes
(Negative example - teacher stays close to playmate but talks to herself aloud, and doesn't share.)	
Am I a good player now?	No

Correction

For any error, the teacher corrects the student by telling the right answer and providing a brief (1-2 sentences) explanation, then repeats the example. For example, had the children responded "yes" in the previous example, the teacher would say, "No I wasn't talking or sharing with my friend. I was just talking to myself." The teacher would then present an example similar to the one on which the error was made.

Performance criterion: Child must correctly identify being a good player on five consecutive turns.		
B. **Structured Practice: Introduction to Contingencies** See text for details on use of reinforcers.	Now I'm going to let all of you practice being good players. You'll take turns. Every time you talk or share with your friend I'm going to give you a happy face. What do you have to do to get a happy face?	Talk or share.
	If you can get all these happy faces (teacher points to blank circles), I'll give you a special handshake when we're all done.	
C. **Structured Practice: Awarding Reinforcers** Materials: One play area set up.	It's your turn first. You and _____ go play in that area (Describe play activity here.) What do you have to do to get a happy face?	Talk or share.
Performance criterion: The target child must demonstrate appropriate talking and sharing in five consecutive play examples. For play sequence should last between 3 and 5 minutes. As soon as the child has demonstrated talking or sharing, the happy face should be awarded and a new play sequence begun.	OK--you may start. Good job talking (or sharing) (or) That's a happy face for talking. Stop playing and come back to the group.	

The teacher needs to make sure that the students are aware of when they are earning happy faces. The awarding of happy faces should be accompanied by a brief descriptive praise statement. Structured practice continues until all students in the group have had an opportunity to earn happy faces.

Correction

If the child is not talking or sharing, the teacher should prompt initially by saying, "I can't give any happy faces yet--you need to talk or share with your friend." If the child fails to respond to the more general prompt, the teacher may give the child a specific prompt of what to say. For example, if the children were playing house the teacher could prompt by saying, "Johnny, go ask Sam to help you make dinner,"

Let's see how _____ did. Remember you needed all these happy faces. Did you get all the happy faces filled in?	Yes
So will you get a special handshake?	Yes
Now let's see who gets a special handshake. (Teacher looks over the list and asks students whether they earned a handshake. Then handshakes are awarded and session is over.)	

III. Initiation-Verbal

Directions	Teacher Wording	Child Response	Performance
A. Introduction	Today we're going to practice how to ask your friends to play. When you ask your friends to play, you find a friend and say, "Can I play too?" What do you say?	Can I play too?	
Performance criterion: Child must respond correctly to question presented in this section.	_____, when you ask your friends to play, what do you say?	Can I play too?	
B. Demonstration Teacher sends two children to a designated play area and has remaining children practice joining the group and asking their friends to play.	Now we'll take turns asking friends to play. _____ and _____ can go play over in that area. _____ and _____, when you ask your friends to play, what will you say? (Model), go over and ask a friend to play.	Can I play too? (Student walks over to one of the children playing and asks "Can I play too?")	
Materials: Three separate areas with different activities set up.	Good asking! Did your friend say yes? Then you may stay and play awhile.	Yes	
Performance criterion: Child must initiate correctly three consecutive times.	(Target), now it's your turn. What are you going to say when you ask your friend to play? OK, now go ask a friend to play.	Can I play too? (Target child joins group and asks "Can I play too?")	
	Good job! Did your friend say yes?		

Teacher lets children play 2-3 minutes, then calls the children back to the group area.		
C-1. Structured Practice Teacher repeats step B 3-5 times, alternating activities. The teacher also should give all children the chance to practice the initiating skill. During this time the teacher does not ask the children what they will say before entering the group.	_____ and _____ may go play over in that area. (Target), go over and ask a friend to play. Good. Did your friend say yes? Then you can stay and play awhile.	Can I play too? Yes
	(Model), now it's your turn. Go over and ask a friend to play. Did your friend say yes? Then you may stay and play awhile.	Can I play too? Yes
Materials: Same as in B.		
Correction. If the target child fails to ask the appropriate question, the teacher calls the child back, reminds the child what to ask and repeats the exercise. If necessary the teacher can have another child model the entering behavior before the target child takes a subsequent turn.	Remember, when you ask a friend to play you say, "Can I play too?" What do you say?	Can I play too?
	When you go over and ask your friend to play, what are you going to say?	Can I play too?
	Now you may go ask your friend to play.	
Performance criterion: Child must initiate correctly three consecutive times.		

APPENDIX C

SOCIAL INTERACTION SCAN (S.I.S.)

Social Interaction Scan[a]

Classroom/Teacher: ______________________ Time Started: ______________

Observer: ______________________ Activity: ______________

Date: ______________

Child's Name	T_t^c	T_t^c	T_t^c	T_t^c	T_t^c	T_t^c	T_t^c
	I_n^h	I_n^h	I_n^h	I_n^h	I_n^h	I_n^h	I_n^h
	N_n^h	N_n^h	N_n^h	N_n^h	N_n^h	N_n^h	N_n^h
	P	P	P	P	P	P	P
	I/U	I/U	I/U	I/U	I/U	I/U	

Child's Name	T_t^c	T_t^c	T_t^c	T_t^c	T_t^c	T_t^c	T_t^c
	I_n^h	I_n^h	I_n^h	I_n^h	I_n^h	I_n^h	I_n^h
	N_n^h	N_n^h	N_n^h	N_n^h	N_n^h	N_n^h	N_n^h
	P	P	P	P	P	P	P
	I/U	I/U	I/U	I/U	I/U	I/U	I/U

Child's Name	T_t^c	T_t^c	T_t^c	T_t^c	T_t^c	T_t^c	T_t^c
	I_n^h	I_n^h	I_n^h	I_n^h	I_n^h	I_n^h	I_n^h
	N_n^h	N_n^h	N_n^h	N_n^h	N_n^h	N_n^h	N_n^h
	P	P	P	P	P	P	P
	I/U	I/U	I/U	I/U	I/U	I/U	

Child's Name	T_t^c	T_t^c	T_t^c	T_t^c	T_t^c	T_t^c	T_t^c
	I_n^h	I_n^h	I_n^h	I_n^h	I_n^h	I_n^h	I_n^h
	N_n^h	N_n^h	N_n^h	N_n^h	N_n^h	N_n^h	N_n^h
	P	P	P	P	P	P	P
	I/U	I/U	I/U	I/U	I/U	I/U	I/U

Child's Name	T_t^c	T_t^c	T_t^c	T_t^c	T_t^c	T_t^c	T_t^c
	I_n^h	I_n^h	I_n^h	I_n^h	I_n^h	I_n^h	I_n^h
	N_n^h	N_n^h	N_n^h	N_n^h	N_n^h	N_n^h	N_n^h
	P	P	P	P	P	P	P
	I/U	I/U	I/U	I/U	I/U	I/U	

Child's Name	T_t^c	T_t^c	T_t^c	T_t^c	T_t^c	T_t^c	T_t^c
	I_n^h	I_n^h	I_n^h	I_n^h	I_n^h	I_n^h	I_n^h
	N_n^h	N_n^h	N_n^h	N_n^h	N_n^h	N_n^h	N_n^h
	P	P	P	P	P	P	P
	I/U	I/U	I/U	I/U	I/U	I/U	I/U

Child's Name	T_t^c	T_t^c	T_t^c	T_t^c	T_t^c	T_t^c	T_t^c
	I_n^h	I_n^h	I_n^h	I_n^h	I_n^h	I_n^h	I_n^h
	N_n^h	N_n^h	N_n^h	N_n^h	N_n^h	N_n^h	N_n^h
	P	P	P	P	P	P	P
	I/U	I/U	I/U	I/U	I/U	I/U	

Child's Name	T_t^c	T_t^c	T_t^c	T_t^c	T_t^c	T_t^c	T_t^c
	I_n^h	I_n^h	I_n^h	I_n^h	I_n^h	I_n^h	I_n^h
	N_n^h	N_n^h	N_n^h	N_n^h	N_n^h	N_n^h	N_n^h
	P	P	P	P	P	P	P
	I/U	I/U	I/U	I/U	I/U	I/U	I/U

Child's Name	T_t^c	T_t^c	T_t^c	T_t^c	T_t^c	T_t^c	T_t^c
	I_n^h	I_n^h	I_n^h	I_n^h	I_n^h	I_n^h	I_n^h
	N_n^h	N_n^h	N_n^h	N_n^h	N_n^h	N_n^h	N_n^h
	P	P	P	P	P	P	P
	I/U	I/U	I/U	I/U	I/U	I/U	

Child's Name	T_t^c	T_t^c	T_t^c	T_t^c	T_t^c	T_t^c	T_t^c
	I_n^h	I_n^h	I_n^n	I_n^h	I_n^h	I_n^h	I_n^h
	N_n^h	N_n^h	N_n^h	N_n^n	N_n^h	N_n^h	N_n^h
	P	P	P	P	P	P	P
	I/U	I/U	I/U	I/U	I/U	I/U	I/U

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[a] Reproduced from Odom et al., 1988, p.196

APPENDIX D

DEFINITIONS OF LANGUAGE SAMPLE MEASURES AND LANGUAGE FUNCTIONS

Definitions of Language Sample Measures

Type/Token Ratio (T/TR): a numerical representation of the child's expressive lexicon that compares the total number of words spoken and the number of different words spoken by the child. This figure provides a view of vocabulary diversity by expressing a ratio that indicates the child's unique use of particular words in comparison to those used repetitively. (The higher the ratio, the more diversified the vocabulary and the less repetitive use of individual words.)

Mean Length of Utterance: a measure of the average number of morphemes combined into each utterance produced by a child, as collected (recorded) during a specific time period. Morphemes, as the smallest unit of grammatical or lexical meaning, such as pluralization or nouns, are totalled and averaged over the total number of utterance.
Specific examples:
- "words" such as wanna and gonna are counted as one morpheme.
- recited memorized materials such as the alphabet are not included in the calculation of M.L.U.
- lexical items such as "ow!", "oh-oh" are counted as one morpheme.
- 2 part proper nouns such as "Mrs. Smith" are counted as one morpheme.
- compound words such as "hot dog" are counted as one morpheme.
- words repeated for emphasis such as "no,no,no" are not counted as 3 morphemes.

Definitions of Functions of Expressive Language

Self Talk (ST): an utterance that is apparently directed toward no one. The child apparently is speaking to herself, or unknowingly verbalizing out loud. This type of expressive language includes singing, reading aloud, and reciting memorized materials such as the alphabet, to one's self; or to inanimate objects such as a doll, or in imaginary play , on their behalf.

Initiation (In): a novel statement (comment, or question) directed toward an adult or peer and not apparently elicited by another's immediately preceding utterance. Includes non-prompted greetings and non-prompted or topically unrelated questions.

Response: a statement (answer or comment) directed toward the temporally previous speaker, and apparently elicited by that previous speaker's question or statement. A conversation is characterized as beginning with an initiation and followed by multiple responses between the conversation partners.

Imitation: the repetition of all or part of an immediately previous utterance; (within 10 seconds.)

APPENDIX E

PARENT CONSENT FORMS

Vital Grandin School
39 Sunset Boulevard
St. Albert, Alberta T8N 0N6
Telephone: (403) 459-7734
ST. ALBERT SCHOOL DISTRICT NO. 3 †

Grandin Centre — Bishop Vital Grandin's Residence

I, ____, give permission for
(name of parent or guardian)

______________________________________ to participate in a study
(name of child)

designed to investigate the use of sociodramatic play activities for increasing social interactions made by children with special needs. I understand that my child's role will be to model appropriate play behaviour.

These play groups are to be carried out 4 times/week for about 15 minutes each for 6 weeks. If I choose, at any time, to withdraw my child from the study, I may do so.

____
Signature

____
Date

Vital Grandin School
39 Sunset Boulevard
St. Albert, Alberta T8N 0N6
Telephone: (403) 459-7734
ST. ALBERT SCHOOL DISTRICT NO. 3 †

Grandin Centre — Bishop Vital Grandin's Residence

I, ______________________________, give permission for
(name of parent or guardian

______________________________ to participate in a study
(name of child)

designed to investigate the use of sociodramatic play activities for increasing social interactions made by children with special needs. I understand that my child will be a part of a group of 4 children.

The play groups are to be carried out 4 times/week for 15 minutes each for 6 weeks.

____
Signature

____
Date

APPENDIX F

DEFINITIONS OF SOCIAL BEHAVIOURS

Definitions of Social Behavior

Behaviors are classified into five categories: "teacher interaction." "interactive play," "negative interactive play," "proximity play, " and "isolate/unoccupied." For the teacher category, the direction of the interaction(i.e., teacher to child or child to teacher) is noted. For the interactive play and negative categories, the peer with whom the target child is playing (i.e., either handicapped or non handicapped) is noted. The specific definitions are listed below:

Teacher Interaction (T^{c}_{t}): The child is engaged in social interaction with the teacher. If the child is talking or communicating nonverbally to the teacher, both T and C should be circled. If the teacher is talking or communicating nonverbally directly to the child, both T and t should be circled. If the teacher is talking to the whole group, do not mark the T category. The teacher must look at the child, say the child's name, or refer to the activity in which the child is engaged in order for the T category to be circled.

Interactive Play (I^{h}_{n}): The child is verbally or nonverbally interacting with a peer. He/she may be talking about the play activity, suggesting ideas for play, sharing a toy with a peer, playfully crashing his car into another child's car, imitating another child's activity while looking at the other child and being observed in return, playing a chasing game, intentionally touching another child, or listening while another child speaks specifically to him. If the child is playing with a handicapped peer, I^{h} should be circled. I_{n} should be circled if the child is playing with a non handicapped peer. The interactions must have a positive or neutral quality.

Negative Interactive Play (N^{h}_{n}): The child is engaging in play that is hostile, aggressive, or rejecting. He/she may hit or threaten to hit another child (e.g., draw back his/her arm), bite another child, take a toy away from a peer, include a negative (e.g., "no," "stop,") in a sentence indicating that an undesirable event was occurring, verbally taunt or abuse another child, or stick his/her tongue out at another child. If the negative interaction occurs with a handicapped child, N^{h} should be circled: N_{n} should be circled if the play occurs with a non handicapped child.

Proximity Play (P): The child is playing within three feet of another child but is not engaging in social interaction. The child must be holding, touching, or manipulating a toy.

Isolate/Unoccupied (I/U): The child is either playing alone (i.e., is more than three feet from another child), or is not engaged in a play activity but may or may not be within three feet of another child. Although the child does not engaged in any social interaction, he or she may be observing another child or listening to what another child is saying, provided it is not directed specifically to him (e.g., statements to no one in particular or announcements to the whole group).

APPENDIX G

THE TEACHER RATING SCALE

Teacher Rating of Social Interaction

Child's Name: ______________________

Rater's Name: ______________________

Date: ______________________

Social Interaction Rating Score _____

Instructions

Listed below are descriptive statements about children's social interaction. Please read each statement and decide how true or descriptive it is for the child's behavior during the past two weeks. Then circle the number which best indicates how true or descriptive the statement is for the child.

1. Child talks to other children while playing

Occurs very little		Occurs sometimes		Occurs often
1	2	3	4	5

2. Child shares toys with other children.

Occurs very little		Occurs sometimes		Occurs often
1	2	3	4	5

3. Child initiates play with another child

Occurs very little		Occurs sometimes		Occurs often
1	2	3	4	5

4. Child responds to initiations by another child.

Occurs very little		Occurs sometimes		Occurs often
1	2	3	4	5

Total Positive Score ____________

(the sum of the numbers circled)

5. Child stands or sits alone, not engaged in play.

Occurs very little		Occurs sometimes		Occurs often
1	2	3	4	5

6. Child plays with toys inappropriately.

Occurs very little		Occurs sometimes		Occurs often
1	2	3	4	5

7. Child interacts negatively with other children.

Occurs very little		Occurs sometimes		Occurs often
1	2	3	4	5

8. Child interacts mostly with adults.

Occurs very little		Occurs sometimes		Occurs often
1	2	3	4	5

Total Negative Score _______

(the sum of the numbers circled)

APPENDIX H

SOCIAL VALIDITY QUESTIONS

Social Validity Questions

1. How would you describe _________'s social behaviour in the classroom?
2. Have you noticed a change in _______'s social behaviour since January?
3. Do you feel this kind of intervention is important for _______________?
4. In what ways would increasing _________'s social integration be of benefit?